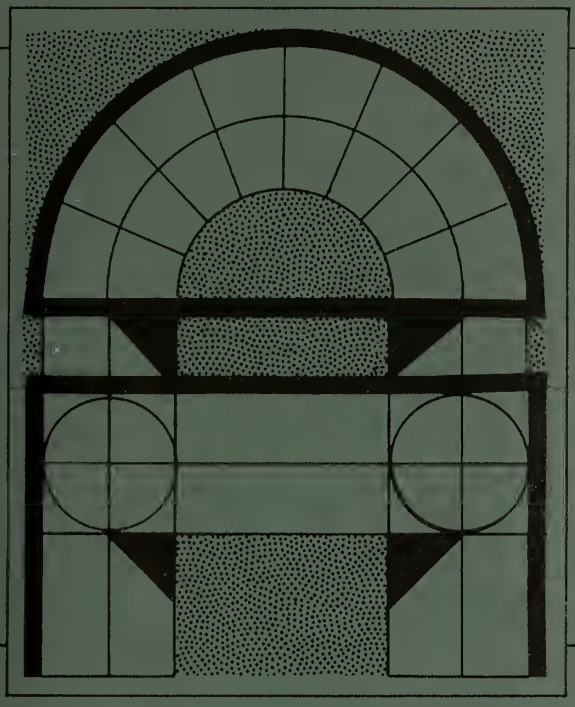
CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF CITY PLANNING

DRAFT
ENVIRONMENTAL IMPACT REPORT



VAN NESS GATEWAY CENTER
84.448E

Publication Date: January 3, 1986
Public Hearing Date: February 13, 1986
Public Comment Period: January 3 through February 17, 1986

Comments should be sent to the Environmental Review Officer
450 McAllister Street, Fifth Floor, San Francisco, California, 94102

DEPARTMENT OF CITY PLANNING 450 McALLISTER STREET · SAN FRANCISCO, CALIFORNIA 94102

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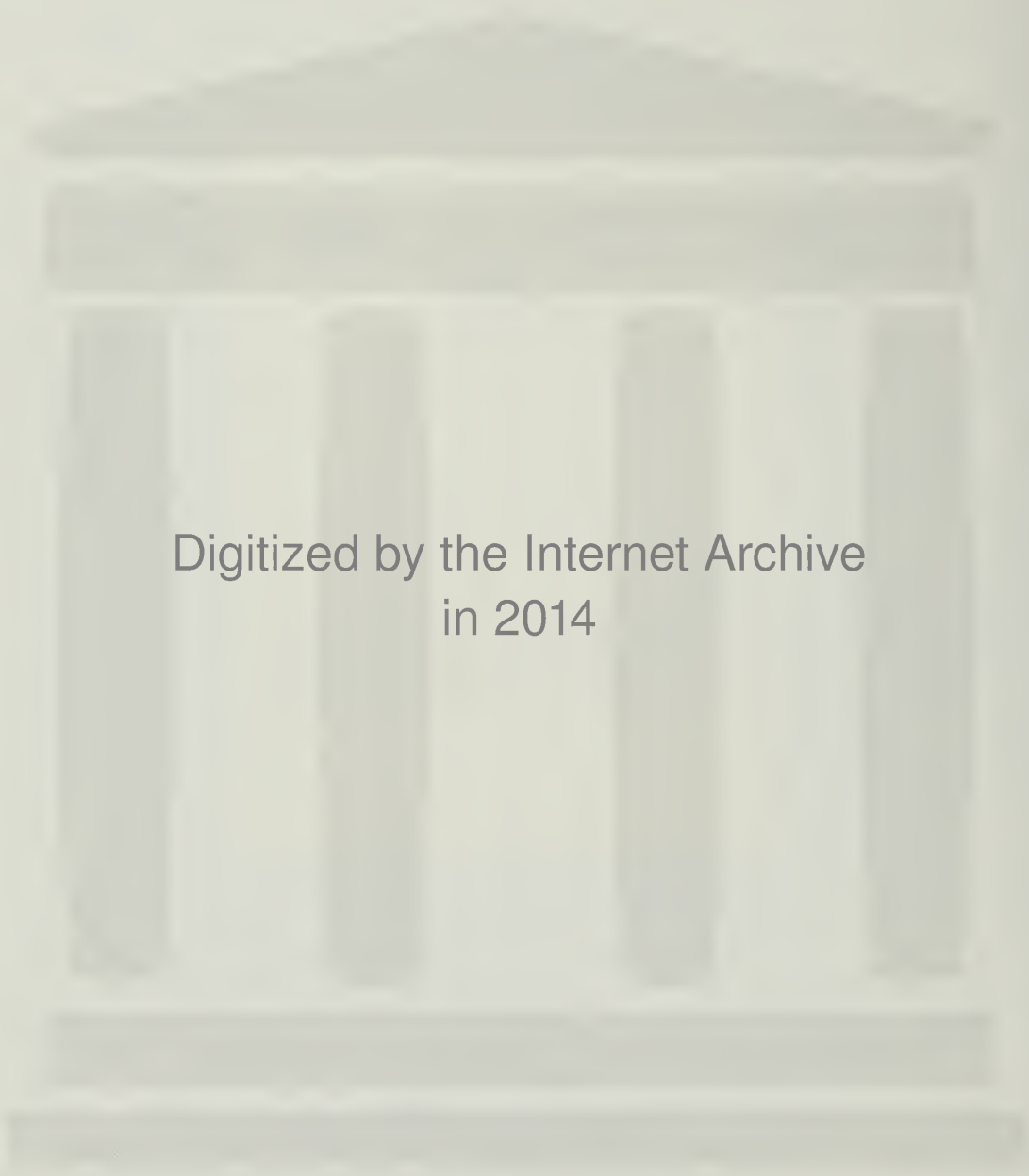

DEPARTMENT OF CITY PLANNING 450 McALLISTER STREET · SAN FRANCISCO, CALIFORNIA 94102

TO: Distribution List for the Van Ness Gateway Center EIR

FROM: Barbara W. Sahm, Environmental Review Officer

SUBJECT: Request for the Final Environmental Impact Report for Van Ness Gateway Center

This is the draft of the Environmental Impact Report (EIR) for Van Ness Gateway Center. A public hearing will be held on the adequacy and accuracy of this document on February 13, 1986. After the public hearing, our office will prepare and publish a document titled "Summary of Comments and Responses," which will contain a summary of all relevant comments on this Draft EIR and our responses to those comments. It may also specify changes to this Draft EIR. Those who testify at the hearing on the draft will automatically receive a copy of the Comments and Responses document along with notice of the date reserved for certification (usually about 9 weeks after the hearing on the draft); others may receive such copies and notice on request or by visiting our office. This Draft EIR, together with the Summary of Comments and Responses document, will be considered by the City Planning Commission in an advertised public meeting and certified as a Final EIR if deemed adequate.

After certification, we will modify the Draft EIR as specified by the Comments and Responses document and print both documents in a single publication called the Final Environmental Impact Report. The Final EIR will add no new information to the combination of the two documents except to reproduce the certification resolution. It will simply provide the information in one rather than two documents. Therefore, if you receive a copy of the Comments and Responses document in addition to this copy of the Draft EIR, you will technically have a copy of the Final EIR.

We are aware that many people who receive the Draft EIR and Summary of Comments and Responses have no interest in receiving virtually the same information after the EIR has been certified. To avoid expending money and paper needlessly, we would like to send copies of the Final EIR to individuals only if they request them.

If you want a copy of the Final EIR, please so indicate in the space provided on the next page and mail the request to the Office of Environmental Review within two weeks after certification of the Final EIR. Any private party not requesting a Final EIR by that time will not be mailed a copy. Public agencies on the distribution list will automatically receive a copy of the Final EIR. Copies will also be available at the Department of City Planning, 450 McAllister Street, San Francisco, California 94102.

Thank you for your interest in this project.

REQUEST FOR FINAL ENVIRONMENTAL IMPACT REPORT

To: Department of City Planning, Office of Environmental Review

Re: Van Ness Gateway Center Final EIR (84.448E)

(____) Please send me a copy of the Van Ness Gateway Center Final EIR.

Signed: _____

Print Your Name and Address Below:

_____
(Name)

_____
(House Number and Street)

_____
(City, State and Zip Code)

If you are requesting an FEIR, please tear this page out, show your address above, fold the mailer so that your return address and the Department of City Planning's address is exposed, seal, add postage and mail.)

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Return address:

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Department of City Planning
450 McAllister Street
San Francisco, California 94102

ATTN: **Catherine Siegel**

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TABLE OF CONTENTS

		Page
I.	SUMMARY	1
II.	PROJECT DESCRIPTION	10
III.	ENVIRONMENTAL SETTING	24
	A. Land Use and Zoning	24
	B. Urban Design	33
	C. Architectural and Historic Resources	39
	D. Transportation	42
	E. Air Quality	47
	F. Employment, Residence Patterns and Housing	50
IV.	ENVIRONMENTAL IMPACTS	62
	A. Land Use and Zoning	62
	B. Urban Design	66
	C. Architectural and Historic Resources	78
	D. Transportation	79
	E. Air Quality	107
	F. Energy	113
	G. Construction Noise	121
	H. Employment, Residence Patterns and Housing	124
	I. Growth-Inducing Impacts	136
V.	MITIGATION MEASURES	138
VI.	UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS	149
VII.	ALTERNATIVES	150
VIII.	EIR AUTHORS AND PERSONS CONSULTED	171
IX.	DISTRIBUTION LIST	172
	APPENDICES	
	A Final Initial Study	A-1
	B Transportation	A-27
	C Cumulative Transportation Impact Analysis in Non-C-3 Areas	A-38
	D Employment and Housing Factors	A-44
	E San Francisco Air Pollutant Summary 1980-1984	A-46
	F Fundamental Concepts of Environmental Noise	A-48
	G Residence Patterns and Housing	A-52

FIGURES

		Page
1.	Site Location Map	11
2.	Building II Street Elevations	15
3.	Building III: Street Elevations	16
4.	Building II: Basement Parking Level and Ground Level Floor Plan	17
5.	Building II: Typical Office Levels	18
6.	Building III: Basement Parking Level	19
7.	Building III: Ground Level Floor Plan	20
8.	Building III: Typical Office Level	21
9.	Existing Land Uses in Project Vicinity	25
10.	Planning Code Use Districts	27
11.	Planning Code Height and Bulk Districts	28
12.	Existing Building Heights in the Vicinity	34
13.	Project Area Photos	35
14.	Project Area Photos	36
15.	Project Area Photos	38
16.	Architecturally and/or Historically Rated Buildings in the Project Vicinity	40
17.	Transit System	43
18.	Public Off-street Parking in the Project Vicinity	45
19.	Photomontages of the Project Looking South on Van Ness	68
20.	Photomontage of the Project Looking Southwest on Mission Street from South Van Ness Avenue	69
21.	Photomontage of the Project Looking South across Mission Street	70
22.	Photomontage of the Project Looking Northeast on Mission Street	71
23.	Photomontage of the Project Looking Southeast on Twelfth Street	72
24.	Photomontage of the Project Looking North on South Van Ness	73
25.	Photomontages of the Project Looking Northwest on Central Skyway	74
26.	Typical Electrical Consumption	116
27.	Typical Gas Consumption	117
28.	Alternative Three: Architect's Rendering	155
29.	Alternative Four: Sections	158
30.	Alternative Five: Architect's Rendering	161
31.	Alternative Six: Ground Floor Plan	164
32.	Alternative Six: Elevations	165

TABLES

		Page
1.	Project Characteristics	13
2.	Floor Area Ratio Calculations	14
3.	Projected Change in Land Uses	63
4.	Comparison of Proposed Project with the San Francisco City Planning Code	65
5.	Relationship Between Applicable Urban Design Policies of the Master Plan and the Proposed Project	75
6.	Relationship Between Applicable Architectural/Historic Resource Policies of the Urban Design Element of the Master Plan and the Proposed Project	78
7.	Net New Project Person Trip Generation	80
8.	Distribution of Net New Project Person Trips Outbound During P.M. Peak Period	81
9.	Existing and Projected Intersection Performance, P.M. Peak Hour	85
10.	Pedestrian Impacts Midday Peak	89
11.	Outbound Regional Transit Demand and Service Levels	96
12.	Outbound Regional Auto Demand	103
13.	Projected Daily Pollutant Emissions	108
14.	Existing and Projected Curbside Carbon Monoxide Concentrations at Selected Intersections	110
15.	Estimated Project Energy Use	114
16.	Project Related Annual Transportation Energy Consumption	119
17.	Typical Commercial/Industrial Construction Noise Levels at 50 Feet from the Source	122
18.	Regional Perspective on Residence Patterns	133
19.	Alternative Comparison Table	151

I. SUMMARY

A. PROJECT DESCRIPTION (see pages 10 to 23)

Deringer Development Group proposes to construct a two-building, office and retail complex at the intersection of South Van Ness Avenue and Mission Street between the Mission, Civic Center and South of Market areas of San Francisco. The project site contains 78,879 square feet and consists of Assessor's Block 3512, Lots 5 and 6, and Assessor's Block 3514, Lots 1, 33, 36a and 40. Lots 5 and 6 in Block 3512 are currently occupied by two buildings, 1660-1666 and 1668 Mission Street, 40-feet and 28-feet high respectively, together containing 5,000 gross square feet of vacant retail space, 20,000 gsf of vacant auto-retail use and 26 vacant and fire-damaged residential hotel units. Lot 1 in Block 3514 contains the Firestone Tire Shop and includes 5,000 gsf of retail space and 15,000 gsf of auto bays. Lots 33 and 40 in Block 3514 are currently used as a 175-space surface parking lot. Lot 36a in Block 3514 is vacant. All of these buildings and the surface parking lot would be demolished as part of the proposed project.

The proposed project would consist of two buildings containing a total of 431,949 gsf of office space, 32,786 gsf of retail space, plus open space and subterranean parking. Building II would be an eight-story structure, 105-feet high, including 103,560 gsf of office space, 4,700 gsf of ground floor retail space, 3,377 gsf of open space and 102 valet-style parking spaces. It would be built adjacent to the existing Van Ness Plaza (Building I) structure (163,609 gsf of office space and 14,970 gsf of retail space). Building III would be an eight-story, two-wing, 105-foot high structure and would contain 328,389 gsf of office space, 28,086 gsf of retail space, 24,483 gsf of open space and 417 valet-style parking spaces on two basement levels under the west wing.

Overall, the development would have a floor area ratio (FAR) of 5.4:1. including lot premiums (5.9:1 excluding lot premiums). Buildings II and III each have an FAR of

5.4:1, including lot premiums (5.9:1, excluding lot premium). In combination with the existing Van Ness Plaza the project would have an FAR of 4.6:1, including lot premiums (without lot premiums it would be 5.0:1).

The development would have five off-street loading docks, with one in Building II entered from Mission Street and exited onto Otis Street and the remainder in Building III accessible from South Van Ness Avenue. Pedestrian access would be from Otis and Mission Streets and South Van Ness Avenue.

The project would require conditional use authorization for a Planned Unit Development and would provide fewer parking spaces than required by the Section 151 of the City Planning Code. A building permit application was filed for the project on January 14, 1985.

B. ENVIRONMENTAL EFFECTS

1. Land Use and Zoning (see pages 62 to 65)

The proposed project would result in an intensification of uses on the project site, with a net increase of 431,949 gsf of office space, 12,786 gsf of retail space and 344 parking spaces. The project site is in a C-M (Heavy Commercial) District. The project's FAR of 5.4:1 is within the allowable FAR of 9:1 on the project site. The project would reach the maximum 105-foot height permitted in the 105-A Height and Bulk District. Both of the project buildings would conform to the allowable dimensions of the district.

In conjunction with recently approved and proposed projects, the proposed project would contribute to an intensification of development in the project area between the Mission, South of Market and Civic Center areas, involving an increase in the office and retail uses in the project area.

2. Urban Design (pages 66 to 77)

The proposed buildings would be about three to four times as high as the prevailing scale of development in the project area and similar in height to larger buildings in the project area, particularly those immediately south and west of the site. In total floor area, the

project buildings would be larger than most other buildings in the project area. In conjunction with other existing projects, the proposed project would increase the scale and intensity of development in the area.

3. Architectural and Historic Resources (page 78)

The proposed project would demolish the Firestone Tire Shop building at 140 South Van Ness, rated "3" by Department of City Planning and preliminarily rated "B" by the Foundation for San Francisco's Architectural Heritage.[1] Demolition of the proposed buildings would not affect any proposed historic district.

4. Transportation (see pages 79 to 106)

The proposed project would generate about 12,736 daily weekday person trips. P.m. peak-hour (4:15 p.m. to 5:15 p.m.) person trips would increase by about 1,021.

Volume-to-capacity ratios at major intersections in the project area would decline in level of service with cumulative development by the year 2000. The project would generate about 200 additional p.m. peak-hour vehicle trips, representing less than one percent of cumulative downtown vehicle trips.

Peak-hour ridership on Muni would increase by about 202 person trips. The project would generate a net parking demand for 552 spaces (377-space demand generated by the project plus the 175-space parking lot to be demolished) and would provide 519 on-site valet-style (equivalent to 244 self-park) spaces, resulting in a net deficit of 33 spaces. The City Planning Code would require provision of 894 spaces for the proposed project, 375 more than are proposed. The proposed project would increase pedestrian flows on sidewalks adjacent to the project site causing a decline in level of service from open to unimpeded conditions on the Mission Street west sidewalk, South Van Ness sidewalk and Otis Street sidewalk. The level of service on the Mission Street east sidewalk would degrade from open to impeded.

5. Air Quality (see pages 107 to 112)

Air pollutant emissions generated by construction activities over a 24-month period include construction vehicle exhaust and air blown dust, which would be concentrated in

areas east of the project site due to wind direction and would be greatest during demolition of the existing buildings.

Currently there are violations of the eight-hour state and federal standard for carbon monoxide (CO) concentration at each of the three intersections analyzed. By 2000, there would be violations at two of the three intersections.

Impacts on regional air quality would result from an increase of 15,635 daily vehicle-miles traveled (VMT). The project would contribute about 3.3 percent to the total emissions generated by Downtown Plan development in 2000. Due to the statistically insignificant quantities of pollutants generated by the proposed project in comparison with regional totals, there would be no measurable impact on regional air quality.

6. Energy (see pages 113 to 120)

Site development, fabrication and transportation of building materials, worker transportation and building construction would require about 74 billion Btu of gasoline, diesel fuel, natural gas and electricity.

Annual energy consumption by the project would be 85 billion Btu. The project would conform with the requirements of Title 24 of the California Administrative Code.

The Downtown Plan EIR predicts an increase of about 210 million kWh of annual electrical consumption between 1984 and 1990, and of about 330-350 million kWh of annual consumption for the years between 1990-2000. The PG&E projections and Downtown Plan EIR do not predict energy consumption for exactly the same time period and thus are not compatible.

7. Construction Noise (see pages 121 to 123)

The four-phase construction of the project (demolition, excavation and shoring, foundations and garages, and building construction) would take place over a 24-month period. The highest noise levels would be generated by jackhammers during the demolition phase (about 88 dBA at 50 feet) and by pile driving (about 105 dBA at 50 feet) and impact wrenches (about 95 dBA at 50 feet) during building construction. There could

also be some impacts due to vibration during the demolition phase. It is anticipated that the noise levels generated during construction could result in a disturbance to workers and residents in nearby buildings. Mitigation measures have been incorporated into the project to minimize noise impacts on surrounding uses during project construction.

8. Employment, Residence Patterns and Housing (see pages 124 to 135)

On-site employment is expected to increase by about 1,707 employees. Indirect employment in other parts of the Bay Area is expected to increase by 1,795 to 6,644 employees through the multiplier effect. Project construction would require about 490 person years, an average of about 245 construction jobs during the construction period. Due to the proximity of the project site to the C-3 District, directly across South Van Ness Avenue, it is assumed that the occupations and residence patterns of project employees would be similar to those of employees in downtown. Based on this assumption, of the total of 1,707 employees generated by the project, 778 would live in San Francisco, 577 would live in the East Bay, 187 would live on the Peninsula and 164 would live in the North Bay.

Under the assumptions of the San Francisco Office Affordable Housing Production Program the proposed project would generate a local housing demand for 167 housing units.

9. Growth Inducing Impacts (see pages 136 to 137)

The proposed project would result in 431,949 square feet of net new office space and 12,786 square feet of net new retail space, and from 3,502 to 8,351 net new jobs on the project site and throughout the Bay Area. Redevelopment of the project site to a higher intensity of use, along with intensification of development on other sites in the project area, results from rising demand for large floor commercial space and could encourage redevelopment of other sites for higher intensity development in the South of Market and Inner Mission districts, including more intensive retail and office development.

C. MITIGATION MEASURES (see pages 138 to 148)

Some of the mitigation measures included in the proposed project are listed below; the complete list of mitigation measures, both those included in the project and those not included, is found in Section V, pages 138 to 148.

URBAN DESIGN

- The proposed project would include glass which would minimize potential glare impacts on autos.

TRANSPORTATION

- On-site transporation brokerage services would be provided for the life of the project to coordinate measures that are part of a transportation management program, such as: encouraging a flexible time system; encouraging transit use through on-site sale of transit passes; and encouraging employee carpool and vanpool systems. The transportation management program and responsibilities of the provider of transportation brokerage services will be detailed in a Memorandum of Agreement between the project sponsor and the Department, which will be executed prior to issuance of an occupancy certificate.
- The project sponsor would investigate providing additional off-street parking spaces on-site or within 800 feet of the project site in order to minimize the on-site parking deficit and to meet the requirement of the Code.

HOUSING

- The project sponsor would meet its housing requirement under the OAHPP of 167 units, 62% of which "must be affordable to households of low or moderate income for 20 years."

D. ALTERNATIVES (see pages 150 to 170)

ALTERNATIVE ONE: NO PROJECT

This alternative would entail no change to the existing site or uses on the site. The environmental characteristics associated with this alternative would be the same as those described in the Environmental Setting section of this EIR. The project sponsor has rejected this alternative since it would not provide new, first class office space with large floor square footages, would not contribute to the revitalization of the project area, would not provide an architecturally distinctive gateway anchor to the Van Ness Avenue corridor and would not realize a reasonable return on investment.

ALTERNATIVE TWO: PROJECT COMPLYING WITH EXISTING CITY PLANNING CODE

This project would be essentially the same as the proposed project with an additional basement level of parking under the west wing of Building III, and additional parking provided off-site within 800 feet of the site, in order to meet the entire requirement for off-street parking under the City Planning Code. Land use, visual quality, architectural, non-traffic transportation, air quality, housing and growth inducing impacts would be the same for this alternative as for the proposed project. The increase in on-site parking would not measurably increase peak-hour traffic impacts at intersections in the project vicinity. Area parking occupancy would decrease by 21%, from 74% to 53%, with the additional parking compared to an increase of 10%, from 74% to 84%, with the proposed project. Increased excavation would increase construction noise impacts by extending the duration of the demolition/excavation and construction phases.

The project sponsor would consider this alternative if deemed necessary by the City Planning Commission or if required to meet demand from prospective tenants.

ALTERNATIVE THREE: PRESERVATION OF EXISTING FIRESTONE BUILDING PLUS NEW OFFICE AND HOUSING REPLACEMENT

This alternative entails the preservation and rehabilitation of the existing Firestone Tire Shop, rehabilitation and conversion of the Leslie Leasing buildings, reconstruction of the Evergreen Hotel building and construction of the west wing of Building III as described in the proposed project. Impacts on land use, visual quality/urban design, architectural and historic resources, growth inducement, transportation, air quality and construction noise would be less than in this alternative than in the proposed project since the project would involve both a 40% reduction in total square footage and retention of the Firestone Tire Shop building. Cumulative impacts on the Levels of Service at nearby intersections would remain the same as in the proposed project. Occupancy in off-street parking in the project area would increase from 74% to 80%, compared to an increase from 74% to 84% with the proposed project.

The project sponsor has rejected this alternative because it meets none of his stated objectives regarding the provision of large floor office space and construction of an architecturally distinctive gateway anchor for the Van Ness Avenue corridor.

ALTERNATIVE FOUR: MIXED USE ALTERNATIVE

This alternative would entail a project identical in design to the proposed project but containing market-rate residential units in each building of the project, relating to the Downtown Plan policy calling for the study of the project area for potential rezoning to moderate-high density residential uses. The alternative would result in decreased impacts on land use, due to the 24% decrease in commercial space. Transportation and air quality, impacts would decrease by 9.3% compared to the proposed project due to decreased travel demand. Occupancy in off-street parking in the project area would increase from 74% to 85%, compared to an increase from 74% to 84% with the proposed project. Visual quality/urban design and architectural and historic resources impacts would be the same as in the proposed project, as would construction noise impacts on adjacent uses.

This alternative has been rejected by the project sponsor because he believes that would not represent the fullest use of the project site and that the mix of housing with large floor back office and retail uses would not be appropriate.

ALTERNATIVE FIVE: SMALLER AND LOWER PROJECT

This alternative would be a project similar to but smaller than the proposed project, corresponding in height to the existing Van Ness Plaza (Building I) building. Impacts on architectural and historic resources would be the same as in the proposed project since all of the existing buildings would be demolished. Land use impacts would be 35% less than the proposed project, in proportion with the decrease in commercial space. Transportation and air quality impacts would decrease by about 9.3% due to decreased travel demand.

This alternative has been rejected by the project sponsor since it would not respond to the sponsor's objective to create a visually distinctive gateway anchor to the Van Ness Avenue corridor and large enough amounts of office space to be attractive to major corporations and government agencies.

ALTERNATIVE SIX: PROJECT INCLUDING CITY BUILDERS SITE

This alternative would be similar to but 11.6% larger than the proposed project, including a 40-foot addition on lots 35 and 36 on Assessor's Block 3514, to expand Building III and provide more basement level parking. Impacts on land use, energy and employment/housing would increase proportionately with the 2.5% increase in commercial space. Impacts on transportation and air quality would increase proportionally with the 3.1% increase in project-generated travel demand. Impacts on architectural and historic resources would be the same as in the proposed project since all existing buildings on the project site would be demolished. As with the proposed project, this alternative would act as an inducement for additional growth in the project area.

The project sponsor has not rejected Alternative Six and would proceed with this alternative in the event that he gains site control of the City Builders Supply site.

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[1] Preliminary ratings have not yet been published and are subject to modification upon further review.

II. PROJECT DESCRIPTION

A. OBJECTIVES OF THE PROJECT SPONSOR

The project sponsor, Deringer Development Group, proposes to construct two office buildings with ground floor retail as the second phase of the recently completed Van Ness Plaza project. In proposing this development, the project sponsor has the following objectives:

- o to provide new office space with large floorplates attractive to major corporations or local, state and federal governmental agencies, many of which have been relocating outside San Francisco in order to acquire large-floor office space of this type for "back office" functions;
- o to revitalize the South Van Ness area, in particular the Mission/South Van Ness intersection, a major transportation hub in the area;
- o to provide an architecturally distinctive gateway anchor to the revitalizing Van Ness Corridor; and
- o to realize a reasonable return on investment.

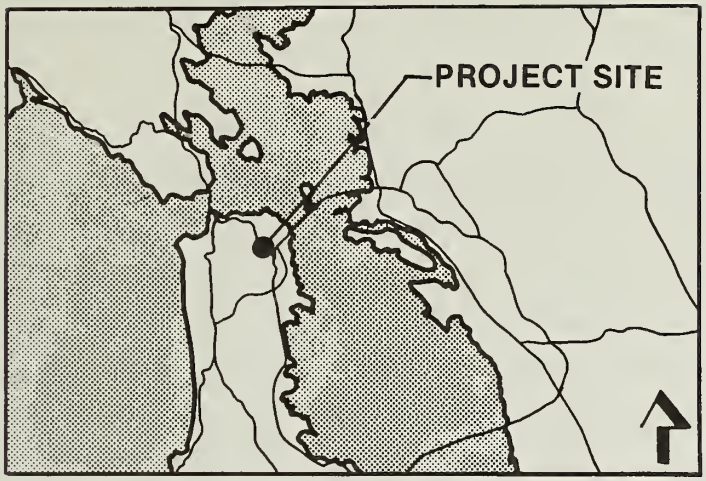
The project architects are Heller/Leake Architects.

B. PROJECT LOCATION

The project site is located between the Mission, Civic Center and South of Market districts of San Francisco. The project site for Building II (the existing Van Ness Plaza is considered Building I) would be Assessor's Block 3512, Lots 5 and 6 between Mission Street and Otis Street, adjacent to Van Ness Plaza. The project site of Buildings III would be Assessor's Block 3514, Lots 1, 33, 36a and 40 between Mission Street and South Van Ness Avenue. The project site is in a C-M (Heavy Commercial) District. In total, the site area is 78,879 square feet (Figure 1, page 11).

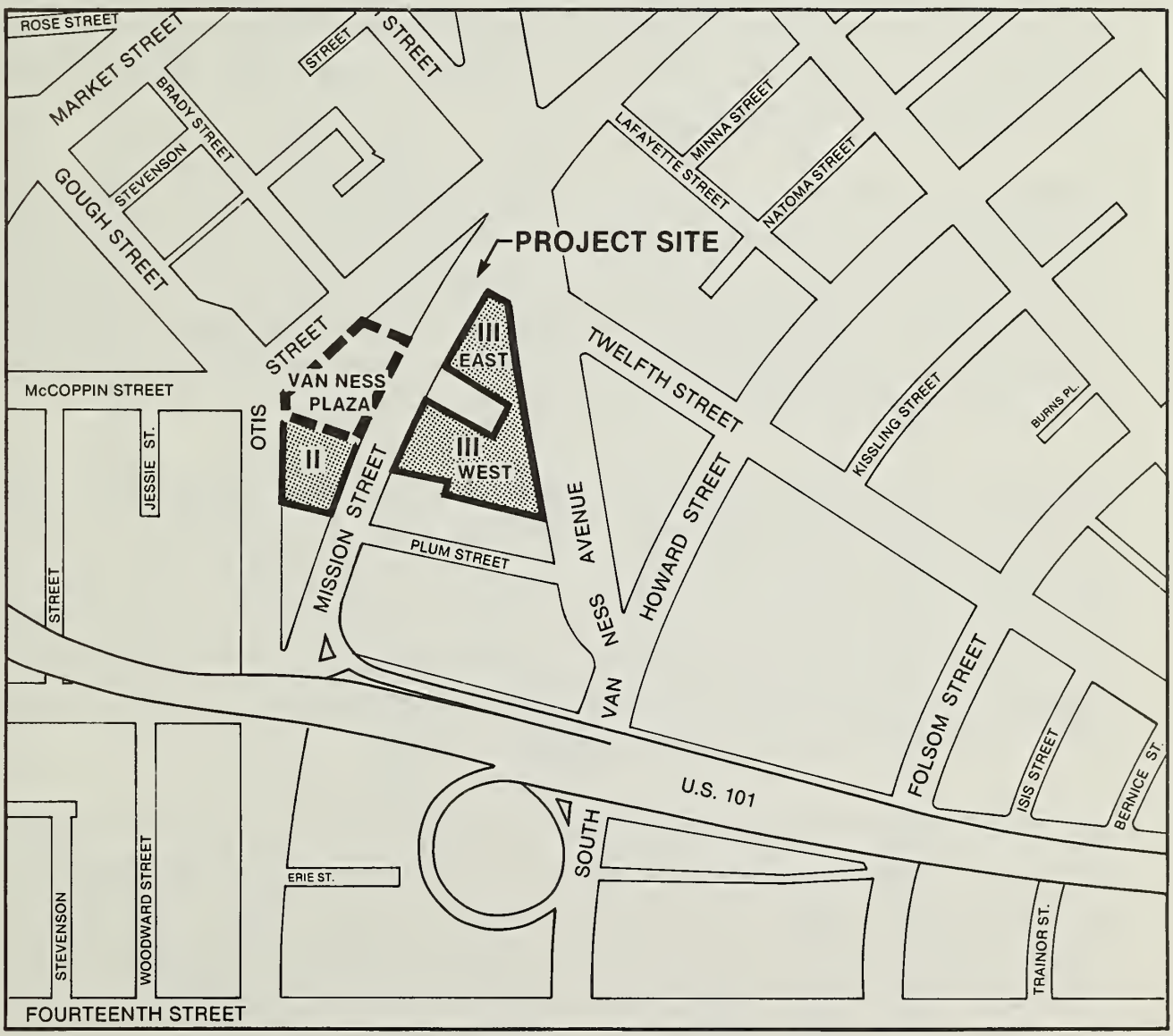
SITE LOCATION MAP

FIGURE 1



KEY MAP

SCALE: 1" = 12 MILES



EXISTING VAN NESS PLAZA

PROPOSED PROJECT

FEET 0 100 200 400

SOURCE: EIP ASSOCIATES

84053

C. PROJECT DESCRIPTION

The proposed project would be a planned unit office and retail development containing a total of 464,735 gross square feet (gsf) of floor area as defined by the City Planning Code, including 431,949 gsf of office space and 32,786 gsf of ground level retail space. The project would also include 10,021 gsf of public open space, 17,839 gsf of tenant open space, 115,695 gsf of parking space that would accommodate 519 valet-style parking spaces (equivalent to 244 self-park spaces -- 894 spaces are required) and five loading docks, four accessed from South Van Ness Avenue and one entered from Mission Street and exited onto Otis Street. The FAR for the proposed project would be 5.4:1. Table 1, page 13, describes the characteristics of the proposed project, including each of the two buildings, and of the existing Van Ness Plaza (Building I). Table 2, page 14, describes the FAR calculations for the proposed project.

Building II would be an 8-story, 105-foot office building with ground floor retail, adjacent to Van Ness Plaza. It would contain 103,560 gsf of office space, 4,700 gsf of retail space, 3,377 of tenant open space and 102 valet-style (equivalent to 59 self-park) parking spaces at street and basement levels and one loading dock, all entered from Mission Street and exited onto Otis Street (Figures 2 through 5, pages 15 through 18). The FAR for Building II without lot premiums would be 5.9:1, and 5.4:1 with lot premiums.

Building III would have two wings, one at the intersection of Mission and South Van Ness and one directly across Mission Street from Van Ness Plaza. It would contain a total of 328,389 gsf of office space and 28,086 gsf of ground floor retail space. Also included in Building III would be 10,021 gsf of public open space, 14,462 gsf of tenant open space and 417 basement level valet-style (equivalent to 185 self-park) parking spaces on two basement levels. The FAR for Building III would be 5.9:1 without lot premiums and 5.4:1 with lot premiums (Figures 6 through 8, pages 19 through 21).

The project would be the second phase of the Van Ness Gateway Center project. The first phase, currently known as Van Ness Plaza, has recently been completed and occupied by the United States Internal Revenue Service and the project sponsor. That building contains 163,609 gsf of office space and 14,970 gsf of retail space in a building that was vacated by an automobile leasing company prior to acquisition by the project sponsor.

TABLE 1

PROJECT CHARACTERISTICS

Project Components	Block/Lot	Site Area (Lot Premiums)	Gross Floor Area (gsf)				Parking (Spaces)	FAR
			Office	Retail	Open Tenant	Open Public		
Building II	3512/5,6	18,326 (1,680)	103,560	4,700	3,377	0	25,557 (102)	5.4:1
Building III	3514/1,33, 36a, 40	60,553 (5,571)	328,389	28,086	14,462	10,021	90,138 (417)	5.4:1
PROJECT TOTAL								
(Buildings II, III)	3512/5,6 3514/1,33, 36a, 40	78,879 (7,251)	431,949	32,786	17,839	10,021	115,695 (519)	5.4:1
Building I (completed)	3512/8	43,712 (2,130)	163,609	14,970	1,500	0	28,742 (120)	3.9:1
Building I & Proposed Project		128,162 (9,381)	595,558	47,756	19,339	10,021	144,437 (639)	4.6:1

SOURCE: Heller & Leake, Architects and EIP Associates

TABLE 2

FLOOR AREA RATIO CALCULATIONS

1. Site area included in FAR calculation	
Site area	78,879
Corner Premium (Bldg III)[1]	1,531
Through Lot Premium (Bldg III)[2]	4,040
Through Lot Premium (Bldg II)[2]	1,680
Total	86,130
2. Permitted Floor Area	
Maximum floor area ratio (FAR)	9.0:1
Site area creditable for FAR	x86,130
Maximum permitted floor area	775,170
3. Project Area	
Gross Floor Area included in FAR[3]	
Office	431,949
Retail	32,786
Total	464,735
Area not included in FAR[3]	
Parking and loading	115,695
Open space	27,860
Total	143,555
4. Project FAR (464,735/86,130)	5.4:1

[1]City Planning Code Section 125(a) provides a floor area premium for corner lots equal to 25% of the corner lot area; City Planning Code Section 102.13 limits the application of Section 125(a) to the portion of a corner lot within 125 feet of the corner in each direction.

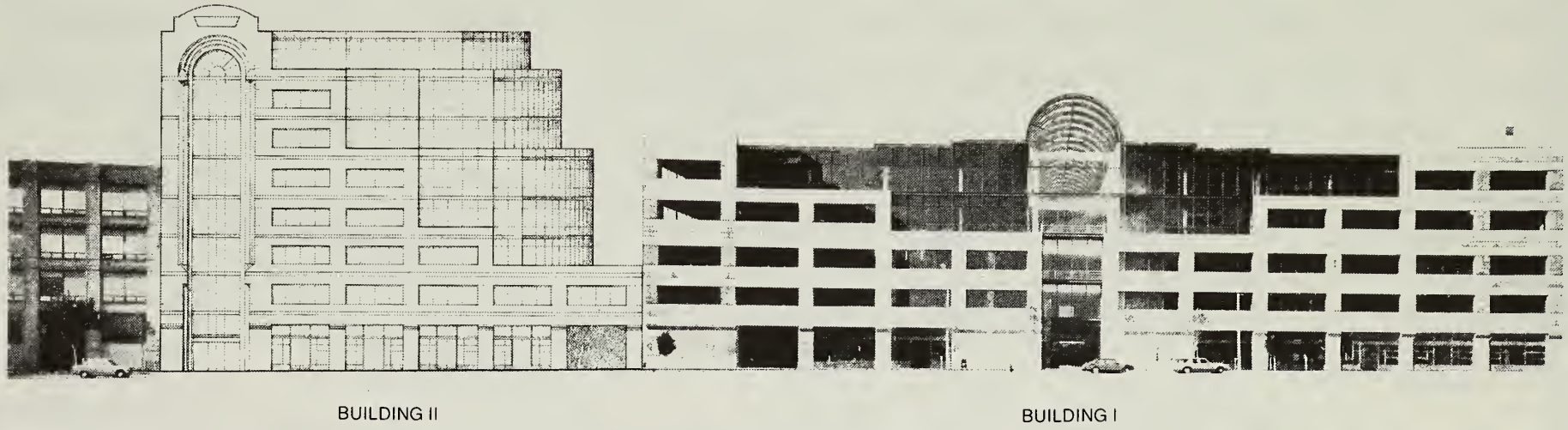
[2]City Planning Code Section 125(b) provides a floor area premium for an interior lot which abuts an alley or street along its rear lot line equal to one-half the width of the street or alley, or 10 feet, whichever is less.

[3]City Planning Code Section 102.8 defines gross floor area for purposes of determining allowable floor area; gross floor area does not include, among other things, area devoted to parking and open space.

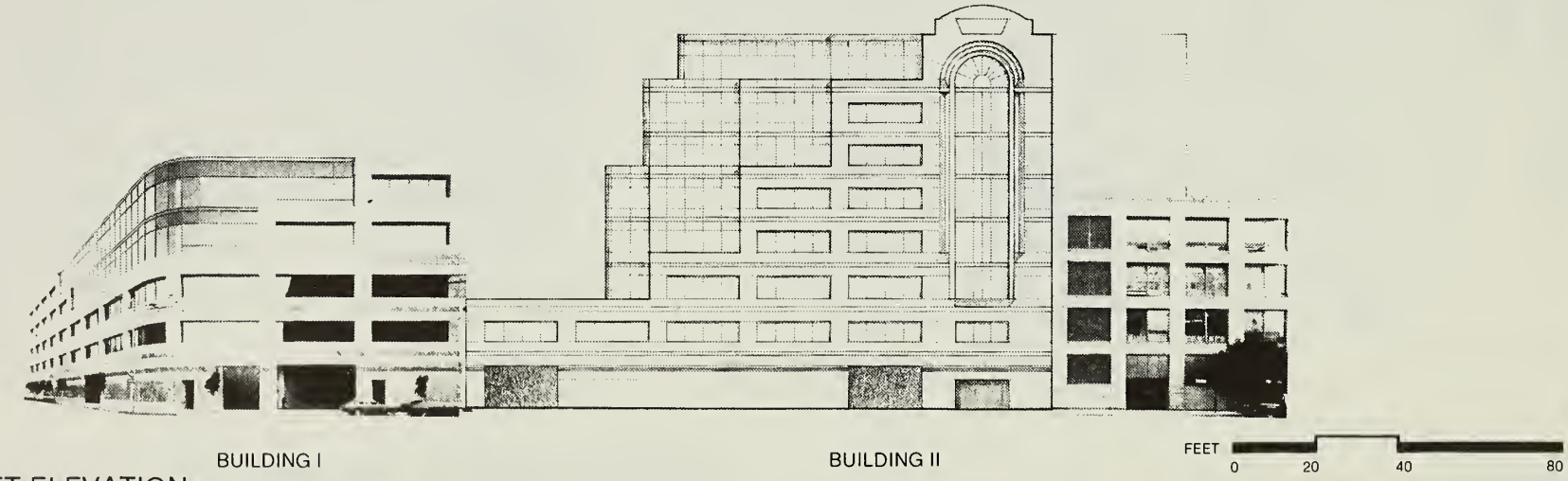
SOURCE: EIP Associates

BUILDING II: STREET ELEVATIONS

FIGURE 2



MISSION STREET ELEVATION



OTIS STREET ELEVATION

SOURCE: HELLER & LEAKE, ARCHITECTS

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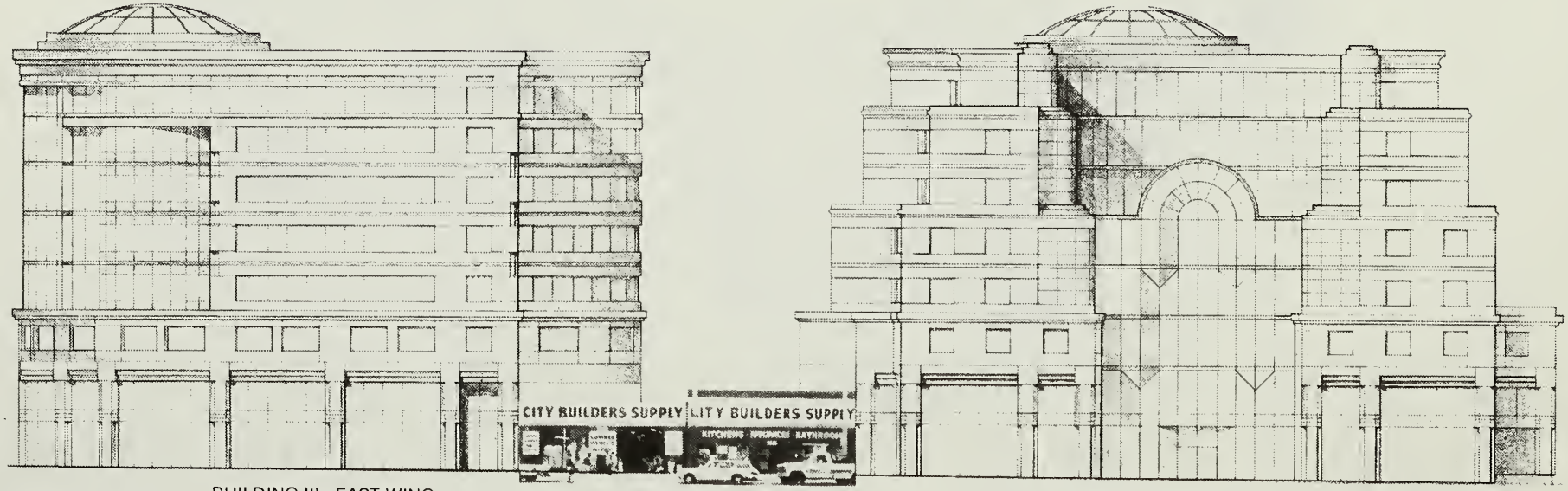
BUILDINGS III/IV: STREET ELEVATIONS

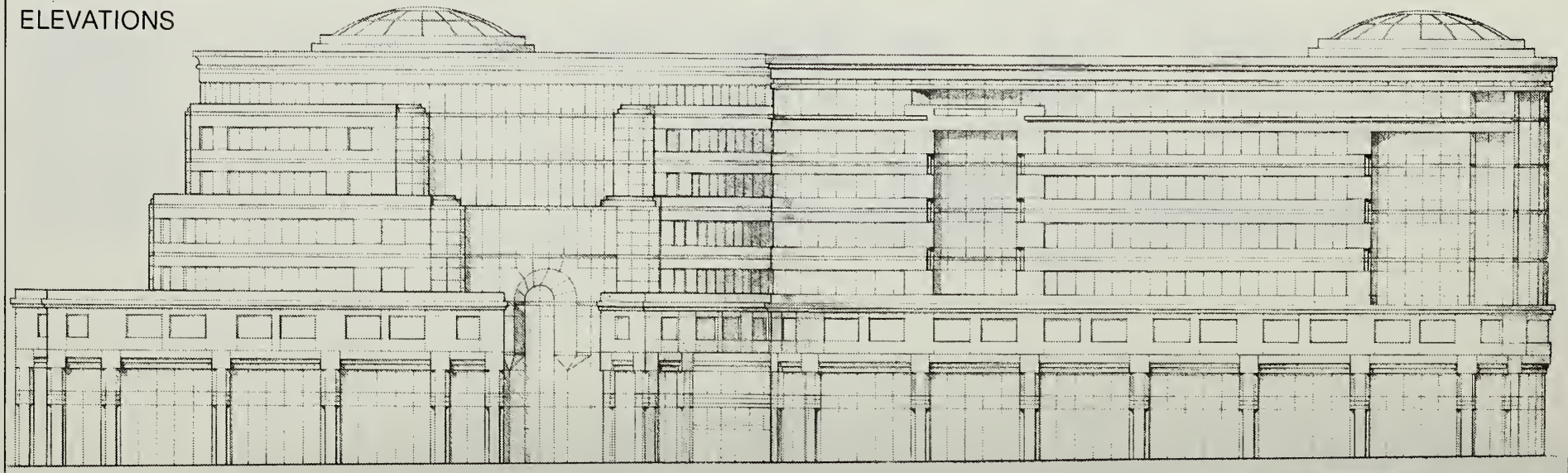
FIGURE 3



BUILDING III - EAST WING

BUILDING III - WEST WING

MISSION STREET ELEVATIONS



BUILDING III - WEST WING

BUILDING III - EAST WING

SOUTH VAN NESS AVENUE ELEVATIONS

FEET 0 20 40 80

SOURCE: HELLER & LEAKE, ARCHITECTS

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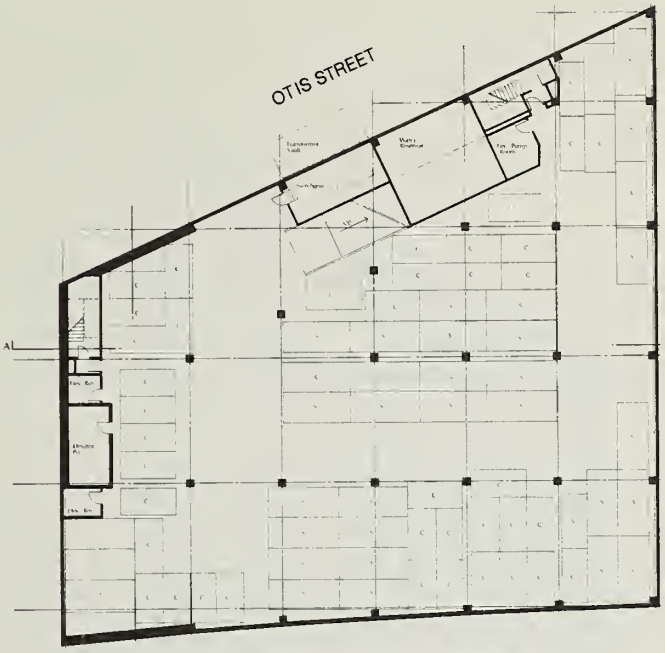
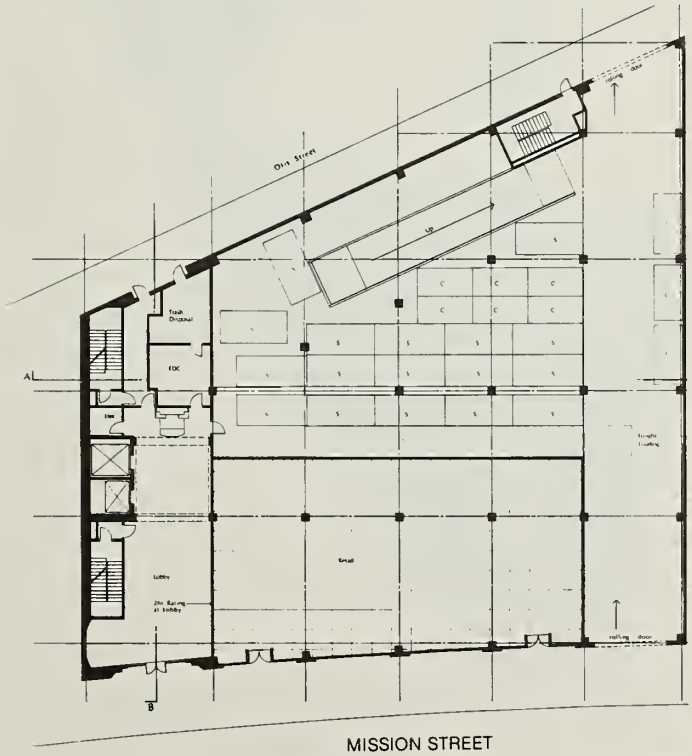
BUILDING II, BASEMENT PARKING LEVEL
BUILDING II, GROUND LEVEL FLOOR PLAN

FIGURE 4



BASEMENT PARKING LEVEL



GROUND LEVEL

FEET
0 16 32 64

SOURCE: HELLER/LEAKE ARCHITECTS

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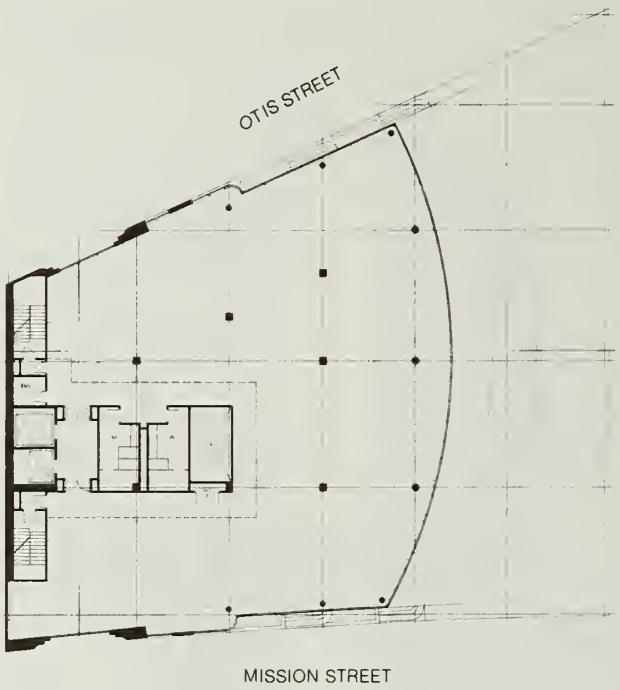
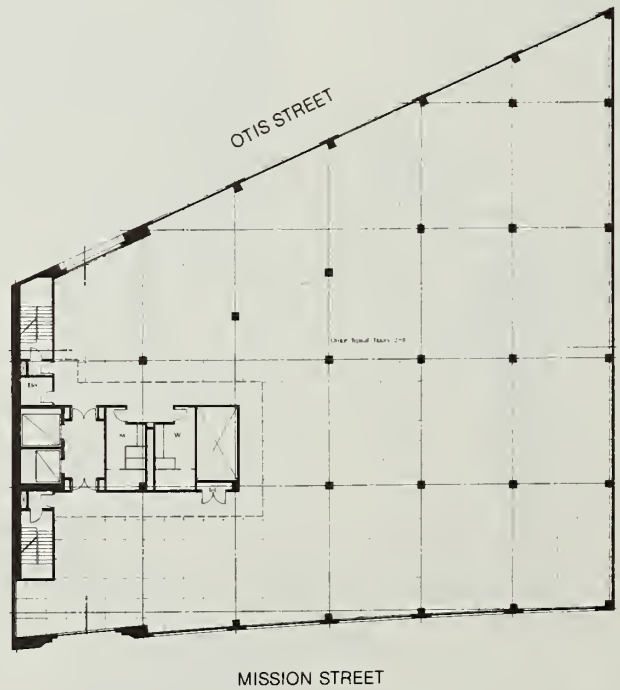
BUILDING II, TYPICAL OFFICE LEVELS

FIGURE 5





FEET 0 16 32 64

SOURCE: HELLER/LEAKE ARCHITECTS

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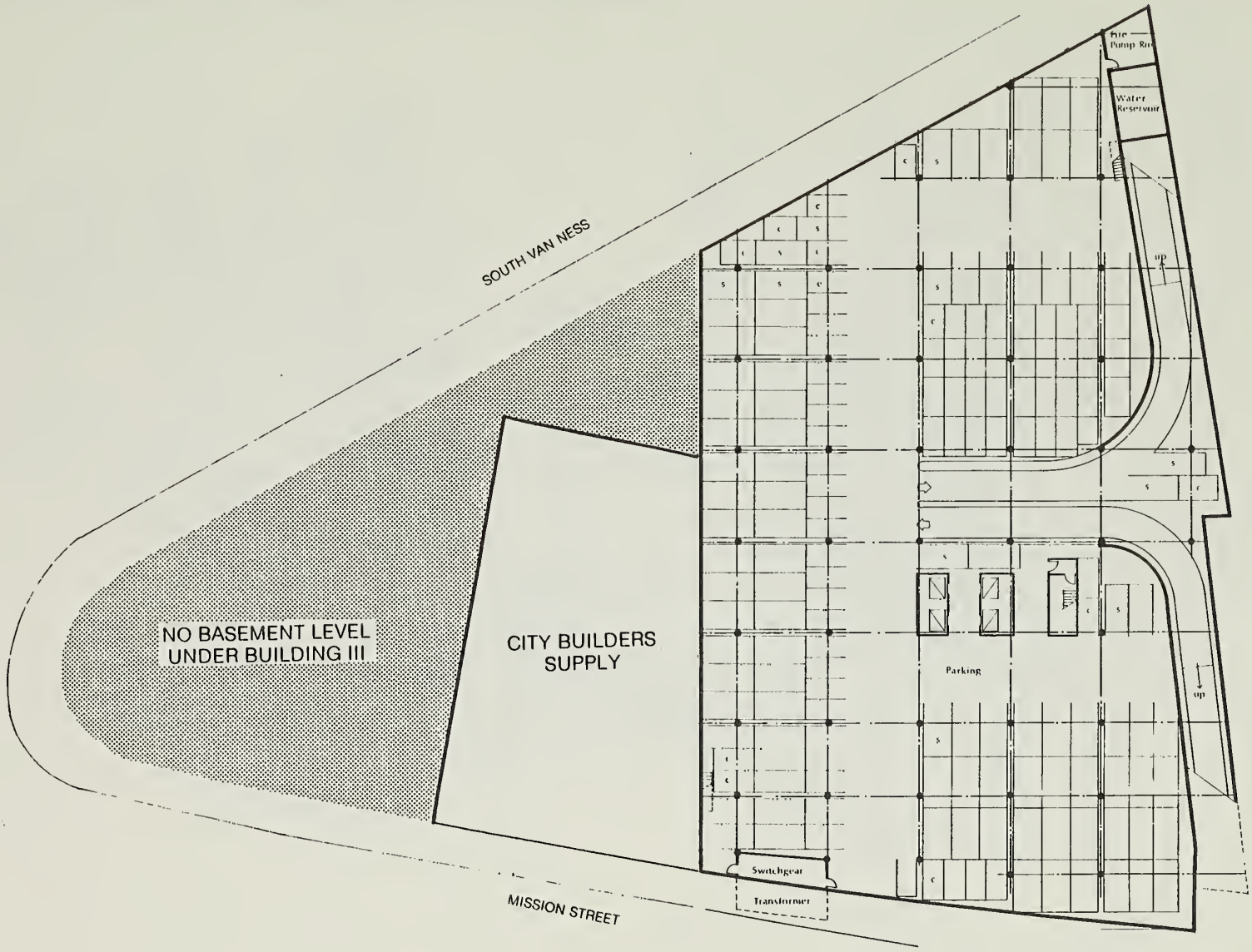
BUILDING III, BASEMENT PARKING LEVEL

FIGURE 6

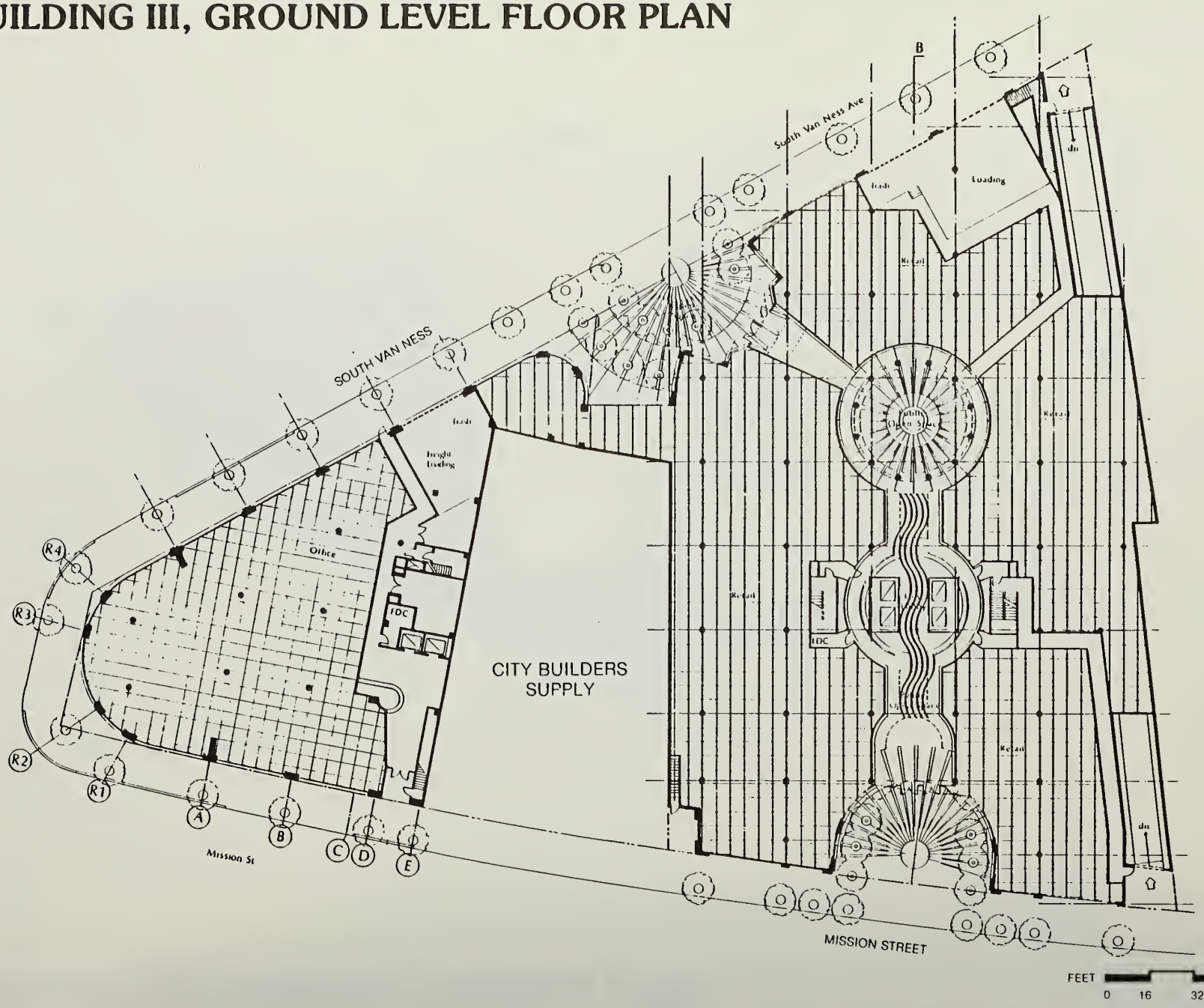


FEET 0 16 32 64

SOURCE: HELLER/LEAKE ARCHITECTS

BUILDING III, GROUND LEVEL FLOOR PLAN

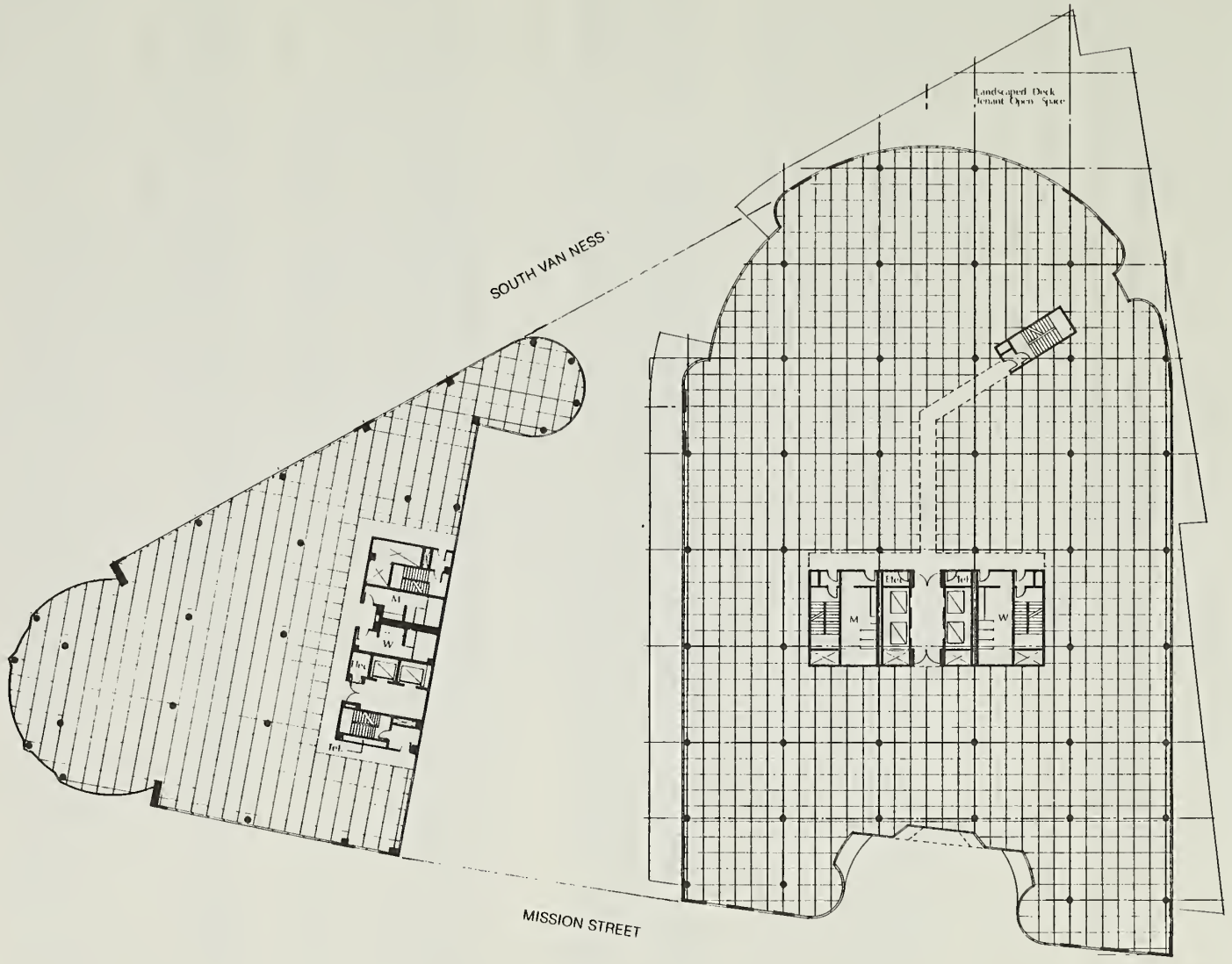
FIGURE 7



SOURCE: HELLER/LEAKE ARCHITECTS

BUILDING III, TYPICAL OFFICE LEVELS

FIGURE 8



SOURCE: HELLER/LEAKE ARCHITECTS

Including the existing Van Ness Plaza building, the FAR of the Van Ness Gateway Center development (including premiums)would be 4.6:1.

The Building II project site contains two buildings, the vacant and fire-damaged three-story Evergreen residential hotel with a former ground floor restaurant and the two-story Leslie Leasing building which formerly contained approximately 3,000 square feet of office space, with the balance in automobile parking uses. In total, the existing buildings on the Building II project site contain a total of about 25,000 gross square feet of commercial space and 26 former residential hotel units. The Building III project site, contains the Firestone Tire Shop, a one-story auto-commercial building of about 5,000 square feet of retail space and about 15,000 square feet of covered auto service bays. Also on the site is a surface parking lot with 175 spaces. All existing structures would be demolished and the parking lot would be removed to construct the proposed buildings.

Pedestrian access to Building II would be from Otis and Mission Streets. There would also be an internal connection to the Van Ness Plaza building on levels two and three. Pedestrians would enter and exit Building III from both Mission Street and South Van Ness Avenue.

Automobiles would enter parking under Building II from Mission Street and would exit onto Otis Street. Similarly, automobiles would enter Building III parking from Mission Street and would exit onto South Van Ness Avenue. Off-street loading for Building II would be entered from Mission Street and exited onto Otis Street. Off-street loading for Building III would be accessed from South Van Ness Avenue at two separate locations.

The design of Building II would include a series of three upper-level setbacks adjacent to the Van Ness Plaza building in order to emphasize the separation between the two buildings and minimize apparent bulkiness. The east wing of Building III, which would extend most prominently into the Van Ness Avenue view corridor, includes a rounded corner emphasized by a glass domed roof, continuing the trend of domed roofs set by other buildings to the north along the Van Ness corridor, such as Davies Hall, the State Office Building (under construction) and City Hall. The east wing of Building III would continue this form with rounded edges along both South Van Ness Avenue and Mission

Street, and include a concave facade at the main entrance, across Mission Street from the entrance to the glass atrium in Van Ness Plaza. Building III would include public open spaces at the entrance areas on Mission Street and South Van Ness Avenue, and an internal atrium providing access to the building's commercial space. The facade of both buildings would be of glassfiber reinforced concrete and green/gray granite veneer with green-tinted window glass, similar to the facade of Van Ness Plaza.

D. PROJECT APPROVALS

Following a public hearing on this EIR before the City Planning Commission, responses to all written and oral comments will be prepared; this EIR will be revised accordingly and presented to the City Planning Commission for certification as to accuracy and completeness.

The project sponsor would request Conditional Use authorization from the City Planning Commission for a Planned Unit Development, including exemption from off-street parking requirements. The project sponsor would also request Project Authorization from the Commission pursuant to Sections 320-324 of the City Planning Code, whereby the project would be evaluated and compared to other proposed projects.

If the project were to be approved by the City Planning Commission, the project sponsor would then need to obtain demolition, building and other related permits from the Central Permit Bureau of the Department of Public Works.

E. PROJECT SCHEDULE AND COSTS

The project sponsor anticipates completion of the final project design by late 1985. Construction would commence once permits were issued. The project would take approximately two years to complete.

Occupancy would be expected to commence by early 1988, with final project occupancy completed sometime after mid-1988. The project sponsor estimates construction costs of $33 million.

III. ENVIRONMENTAL SETTING

A. LAND USE AND ZONING

1. Land Use

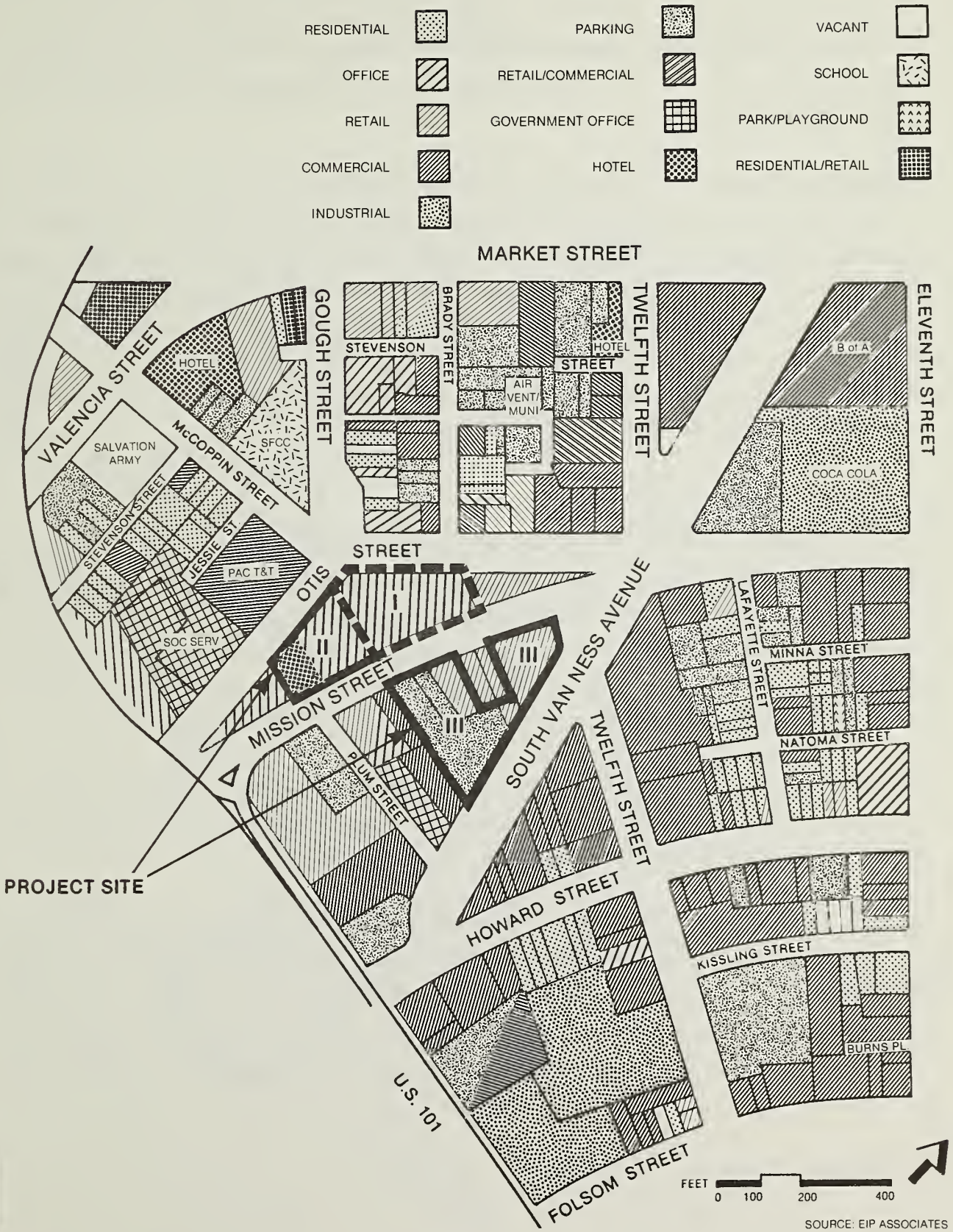
The project site is located on two adjacent but separate blocks between Otis Street, Mission Street and South Van Ness Avenue, and is at and just southwest of the intersection of Mission and South Van Ness. South Van Ness Avenue and Mission Street are traffic corridors through San Francisco. The project site is located in the South Van Ness area, just south of Market Street. The Civic Center is located to the north of the project site, the City's Mission district to the south, the Western Addition to the northwest, the South of Market area to the northeast, and Showplace Square district and anticipated Mission Bay development further to the southeast beyond the James Lick Freeway.

The area around the project site contains a variety of land uses, including retail, auto-oriented commercial and service, government office, residential and parking (see Figure 9, page 25). Uses on the project site are similar to those found generally in the project area. The site of the proposed Building II contains a vacant office and parking building (Leslie Leasing) and a vacant and fire-damaged 26-unit residential hotel (the Evergreen Hotel) with a vacant ground-floor coffee shop. The site of the proposed east wing of Building III contains the Firestone Tire Shop and the site of the proposed west wing of Building III contains a 175-space public parking lot.

Adjacent to the south of the Building III project site is the seven-story 1663 Mission Street building which contains office and manufacturing uses. The completed Building I, located to the north of Building II project site (Van Ness Plaza) was occupied by the regional headquarters of the United States Internal Revenue Service in August, 1985. To the south of the Building II site is the 150 Otis Street building which contains offices for the San Francisco Department of Social Services and MediCal.

EXISTING LAND USES IN PROJECT VICINITY

FIGURE 9



In the immediate vicinity of the project site are governmental uses, including the 150 Otis Street building (mentioned above) and the 1680 Mission Street building which houses additional offices of the Department of Social Services. The Civic Center, the site of local, state (including the proposed State Office Building on Golden Gate near Larkin) and federal government offices, as well as other public and cultural uses, is located about three blocks to the north.

Buildings constructed in the project vicinity (bounded by Market Street, Eleventh Street, Folsom Street and the Central Skyway) during the last ten years have been the Bank of America Computer Center and Van Ness Plaza. The closest project currently under construction is the State of California Office Building at the northwest corner of McAllister Street and Van Ness Avenue. The closest approved project which has not yet begun construction is the 1145 Market Street office building and the closest project currently under formal review by the Department of City Planning, is the Page Plaza project near the intersection of Page and Gough Streets.

2. Zoning and Master Plan Considerations

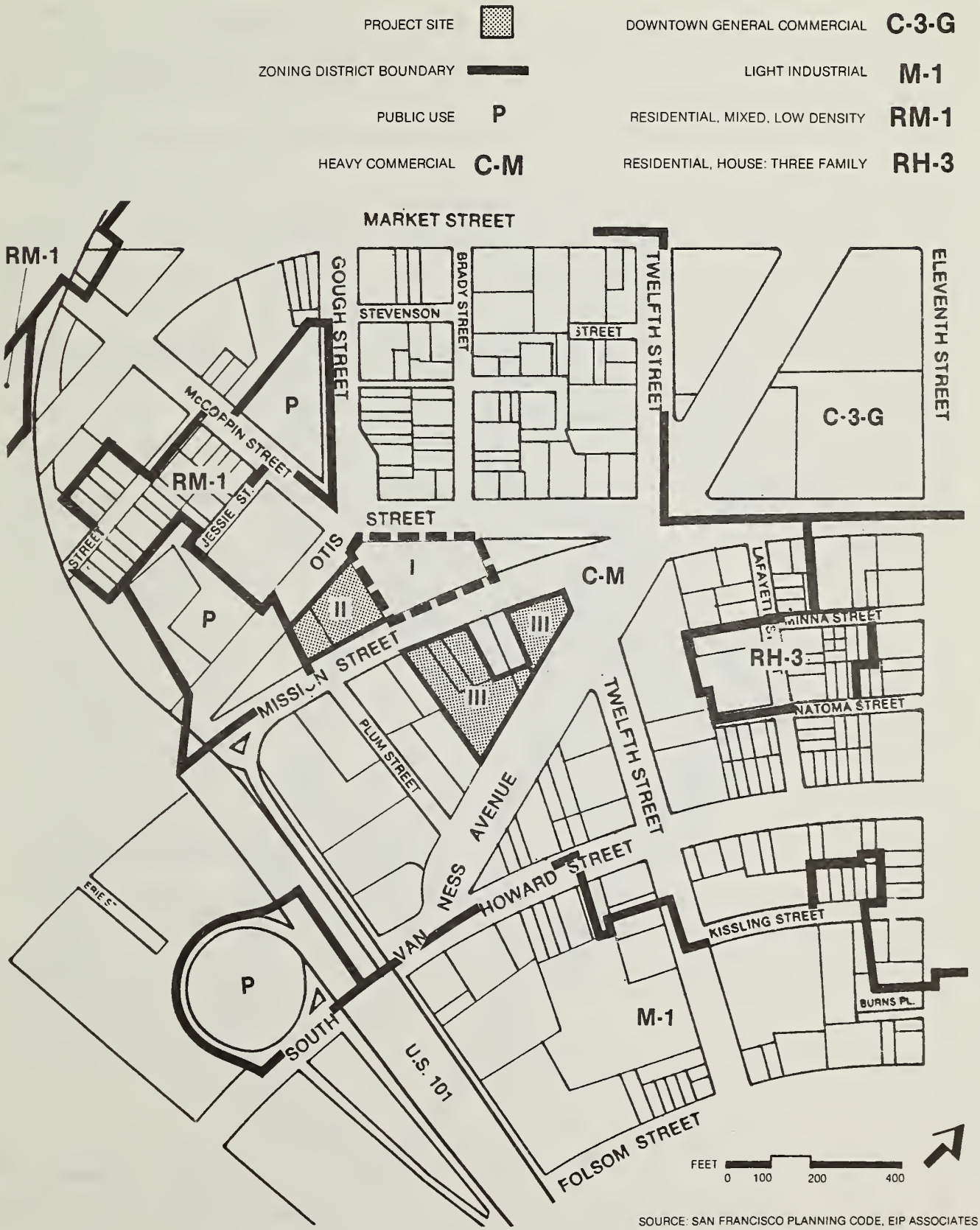
The project site is located in the C-M (Heavy Commercial) zoning district in which the predominant permitted uses are wholesaling, business services and light manufacturing (see Figure 10, page 27). The base permitted floor area ratio (FAR) allowed in the C-M zoning district is 9:1. The site qualifies for 7,251 square feet in corner and through lot premiums allowable under Section 125 of the City Planning Code; these premiums effectively increase the allowable floor area on the site (see Table 2, page 14).

The site is in the 105-J Height and Bulk District which allows for a maximum height of 105 feet, a maximum width of 250 feet and maximum diagonal dimension of 300 feet which applies above a height of 40 feet (see Figure 11, page 28).

Section 151 of the City Planning Code establishes parking requirements for development of the project site. The requirement for office space is one space for each 500 square feet of occupied floor area. The requirement for retail space exceeding 5,000 square feet of occupied floor area is one space for each 500 square feet of occupied floor area up to 20,000 square feet and one space for each additional 250 square feet of occupied floor

PLANNING CODE USE DISTRICTS

FIGURE 10



SOURCE: SAN FRANCISCO PLANNING CODE, EIP ASSOCIATES

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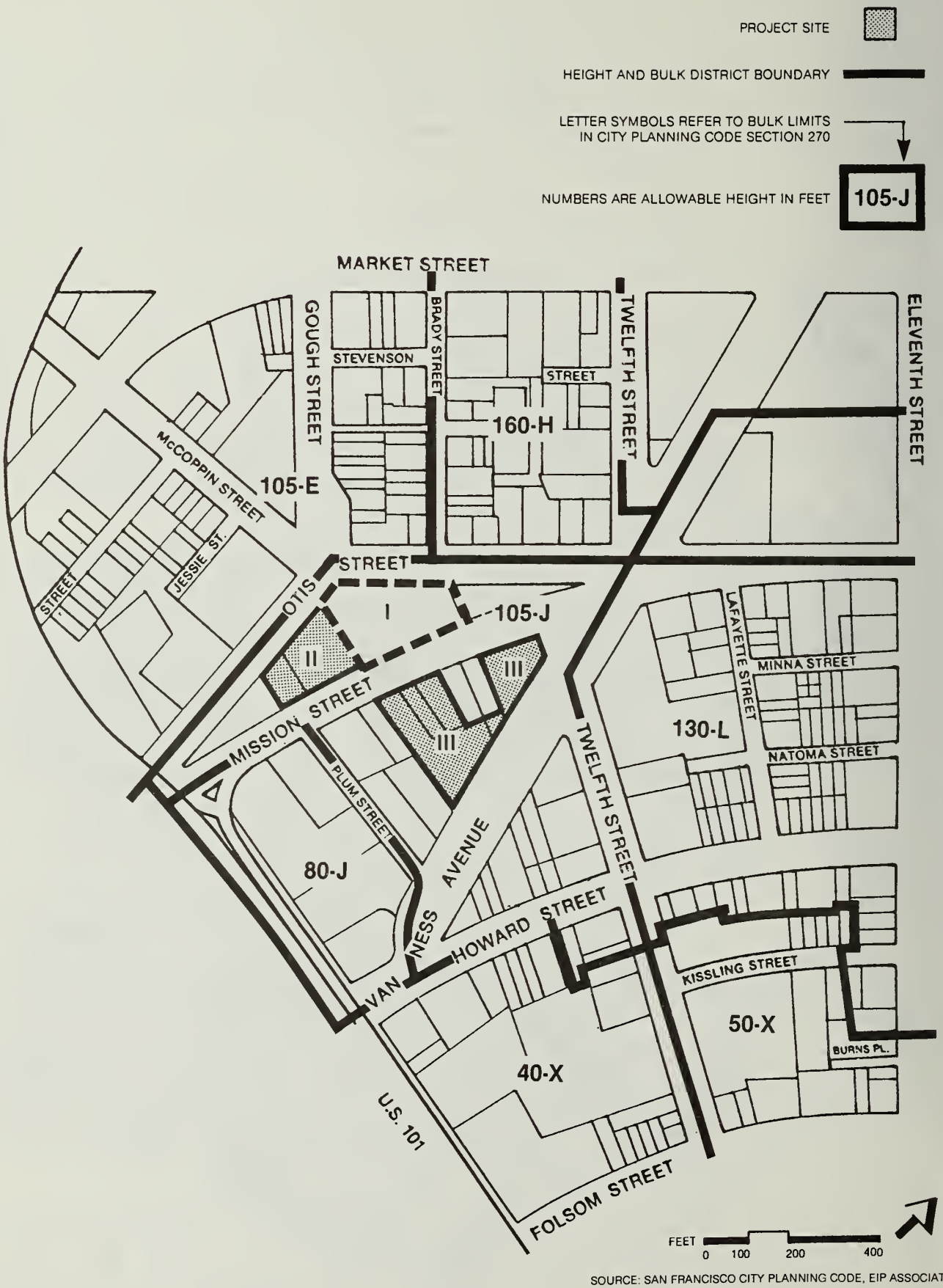
PLANNING CODE HEIGHT AND BULK DISTRICTS

FIGURE 11



SOURCE: SAN FRANCISCO CITY PLANNING CODE, EIP ASSOCIATES

area. For restaurants, the requirement is one space for each 200 square feet of occupied floor area where occupied floor area exceeds 5,000 square feet.

Section 152 of the City Planning Code establishes requirements for freight loading spaces. For office uses no loading spaces are required unless office use exceeds 100,000 square feet of gross floor area, with one space required for 100,000 to 200,000 square feet of gross floor area, and another space required for 200,000 to 500,000 square feet of gross floor area. For retail space, no loading spaces are required for up to 10,000 square feet of gross floor area, with one space required for 10,001 to 60,000 square feet of gross floor area. The first freight loading space must have a minimum length of 24 feet and a minimum vertical clearance of 12 feet; others must have a minimum length of 35 feet and a minimum vertical dimension of 14 feet. City Planning Commission Resolution 9286 requires that the Commission impose as mitigation on all projects, additional loading requirements as outlined in Off-street Freight Loading and Service Vehicle Space Requirements and Guidelines. In summary, the Resolution requires one space per 100,000 gsf of office space, no spaces for less than 10,000 gsf of retail space, one space for 10,000 to 50,000 gsf of retail space and .21 spaces per 10,000 gsf of retail space in excess of 50,000 gsf. In addition, the Resolution requires that all spaces be a minimum of 35 feet deep and includes requirements regarding location and access to loading spaces more stringent than the Code.

In November 1984, the San Francisco City Planning Commision approved the Downtown Plan. Implementing ordinances were adopted by the City on September 17 and became effective October 17, 1985. Although the project site is outside the C-3 zoning districts covered by the Downtown Plan, some proposals and policies of the Plan affect the project site. An "Implementing Action" of the Downtown Plan (page 42) calls for a study of possible rezoning of the South Van Ness area. "The study would assess the potential of rezoning the area for moderately high-density residential use." The Department of City Planning has not yet undertaken this rezoning study. The proposed project would preclude use of the site for moderately high-density residential use if the study indeed suggested that use. The Downtown Plan also calls for the retention of support commercial activity in areas around the downtown core such as

the project area. The Plan defines support commercial as uses involving "back office functions such as billing, data processing, record storage, and drafting and secondary office functions for sales, wholesale, and distribution activities . . . " as well as "business services, sale and repair of office equipment, printing, wholesaling, distribution, delivery services, blueprinting, and maintenance services." (See discussion on page 19 of the Downtown Plan.) The proposed project would respond to this policy.

The Commerce and Industry Element of the San Francisco Master Plan contains land use policies which apply to the proposed project. In the Commerce and Industry Element applicable policies include those relating to the retention and expansion of San Francisco's commercial activity, employment opportunities, relocation of displaced firms within the City, and promotion of governmental functions in San Francisco.

> Objective 1, Policy 1: "Encourage development which provides substantial net benefits and minimizes undesirable consequences. Discourage development which has substantial consequences that cannot be mitigated."
>
> Objective 2, Policy 1: "Seek to retain existing commercial and industrial activity and to attract new such activity to the City."

The proposed project would construct 431,949 gross square feet of new commercial office space with average floor sizes of approximately 20,000 gross square feet, and 12,786 net new square feet of retail space. The proposed project could attract new activity or prevent the loss of existing activity by providing large square footage office floors more commonly found in suburban areas than in downtown San Francisco.

> Objective 3, Policy 1: "Promote the attraction, retention and expansion of commercial and industrial firms which provide employment opportunities for unskilled and semi-skilled workers."

The proposed project would result in a net increase of about 1,876 permanent, full-time jobs on the project site in office and retail businesses. Many of these jobs are likely to be held by City residents, some of whom are unskilled or semi-skilled. During construction approximately 170 temporary jobs would be created.

> Objective 8, Policy 4: "Maintain a presumption against the establishment of major new commercial development except in conjunction with adequately supportive residential development and public/private transportation capacity."

The proposed project would increase commercial retail and office space on the site by 444,735 square feet, including 431,949 gross square feet of new office space, a use not previously on the site. The proposed project would contribute to increased traffic congestion and diminishing Levels of Service on local transit lines.

> Objective 9, Policy 1: "Promote San Francisco, particularly the Civic Center, as a location for local, regional, State and Federal governmental functions."

The proposed project would be within three blocks of the Civic Center and would provide large square footage floors, similar to the State Office Building currently under construction at Van Ness Avenue and McAllister Street and to other public and private buildings under governmental use in the area.

3. Downtown San Francisco and the Bay Area Region

The Department of City Planning has compiled data on major office building construction citywide since 1960 (see Table D-1 in Appendix D). According to the City's data, in 1983 there were 65.5 million gsf of space in major office buildings throughout the City. Most of this office space is in the C-3 District, the downtown core. Between 1960 and 1979, office space was built at an average rate of 1.4 million gsf per year. The data compiled by the Department of City Planning show 12.2 million gsf built from 1980 through 1983, for an average rate of about 3.0 million gsf per year.

San Francisco is likely to continue to be the major office center in the Bay Area. Forecasts of development between 1984 and 2000 prepared for the Downtown Plan EIR (81.3E certified October 18, 1984) estimate that an additional 18.3 million gsf of office space would be built and occupied in the C-3 District. According to the Downtown Plan EIR forecasts, the rate of new office construction in the C-3 District under the Downtown Plan would average about 1.6 million gsf per year between 1984 and 1990, and about 0.8 million gsf per year between 1990 and 2000.[1]

In terms of land use, the most important factor in the regional consideration of cumulative development in downtown San Francisco is region-wide office development. Other land uses throughout the region, such as retail and hotel, are less affected by development in San Francisco, while the office space market is more regional in nature.

Space in office buildings in the other eight counties of the nine-county Bay Area was estimated to be 27 million square feet by the end of 1979.[2] While San Francisco has the majority of existing office space in the region, the rapid growth of office functions in other Bay Area counties has resulted in less than one-half of the new space in office buildings in the region being built in San Francisco. Forty-five percent of the dollar value of building permits issued for office construction in the region between 1972 and 1979 was for San Francisco development.[3] Because the average cost per square foot for office construction is higher in San Francisco due to the predominance of high-rise office construction, the City's recent share, in terms of square footage of regional office space construction, may be inferred to be less than 45 percent.

San Francisco's role as a headquarters city and business center for the west coast stimulates office growth elsewhere in the Bay Area. As San Francisco firms expand, they look to suburban office markets to accommodate new functions and/or to attract a certain segment of the labor force. Moreover, as the costs of space in San Francisco have increased due to high levels of demand, cost-sensitive firms have chosen locations in other cities or in expanding suburban locations.

---

[1] San Francisco Department of City Planning, Downtown Plan Environmental Impact Report (EIR) EE81.3, certified October 18, 1984, Vol. 1, pages IV.B.34-35. This estimate accounts for new construction, as well as demolition and conversion of existing space.

[2] Association of Bay Area Governments (ABAG), "Bay Area Office Growth," Berkeley, California, April 1981, pages 31-62. This number may be an underestimate because the sources for the report apparently do not always include small office buildings.

[3] Ibid., page 18.

B. URBAN DESIGN

The existing buildings on the project site are low-rise, ranging in height from 16 to 40 feet. The Firestone Tire Shop, at 140 South Van Ness, built in 1926, is an automotive use structure, similar in design to a service station with large, open auto bay areas. The vacant Leslie Leasing structure, at 1660-1666 Mission Street, is a two-story automobile showroom style building, with large streetfront windows. The Evergreen Hotel building, at 1668 Mission Street, is a three-story, wood frame structure with upper story bay windows, similar in style to residential structures in the area.

Buildings in the project vicinity range in height from low- to medium-rise (see Figure 12, page 34). Most buildings are constructed to the lot lines, but the continuous facades of these buildings are interupted by surface parking lots and automobile oriented uses set back from the street front (see Figures 13 and 14, pages 35 and 36). Buildings immediately adjacent to the project site vary in height from the 53-foot building at 1680 Mission Street to the 98-foot 1663 Mission Street building. The City Builder's Supply buildings, bounded on three sides by the proposed project, are 16- and 20-feet high. Buildings across South Van Ness from the project site are relatively low, ranging in height from 18 to 30 feet. Buildings across Otis Street from the site are relatively higher, ranging in height from 40 to 85 feet. There are some higher buildings, in particular to the north/northeast of the project site, including the 21-story Bank of America Computer Center, the 388-foot AAA Building, 115-foot 25 Van Ness Building, the 312-foot Federal Office Building, the 92-foot Opera House and War Memorial building.

Mission Street and South Van Ness Avenue are relatively wide streets (80 feet and 125 feet respectively) and are generally bordered by buildings of a height equal to about one-quarter to one-half of the width of the street. This relationship results in a greater sense of openness than of street enclosure. By contrast, Otis Street is 85 feet wide and is bounded by buildings of a height approximately equal to the width of the street, creating a much stronger sense of street enclosure.

The view north up Van Ness Avenue is generally of large, bulky buildings around the Civic Center, including the Opera House, City Hall, the War Memorial and the Museum of Modern Art, Opera Plaza, the AAA Building, the Masonic Temple, and others. The view

EXISTING BUILDING HEIGHTS IN THE VICINITY

FIGURE 12

SOURCE EIP ASSOCIATES

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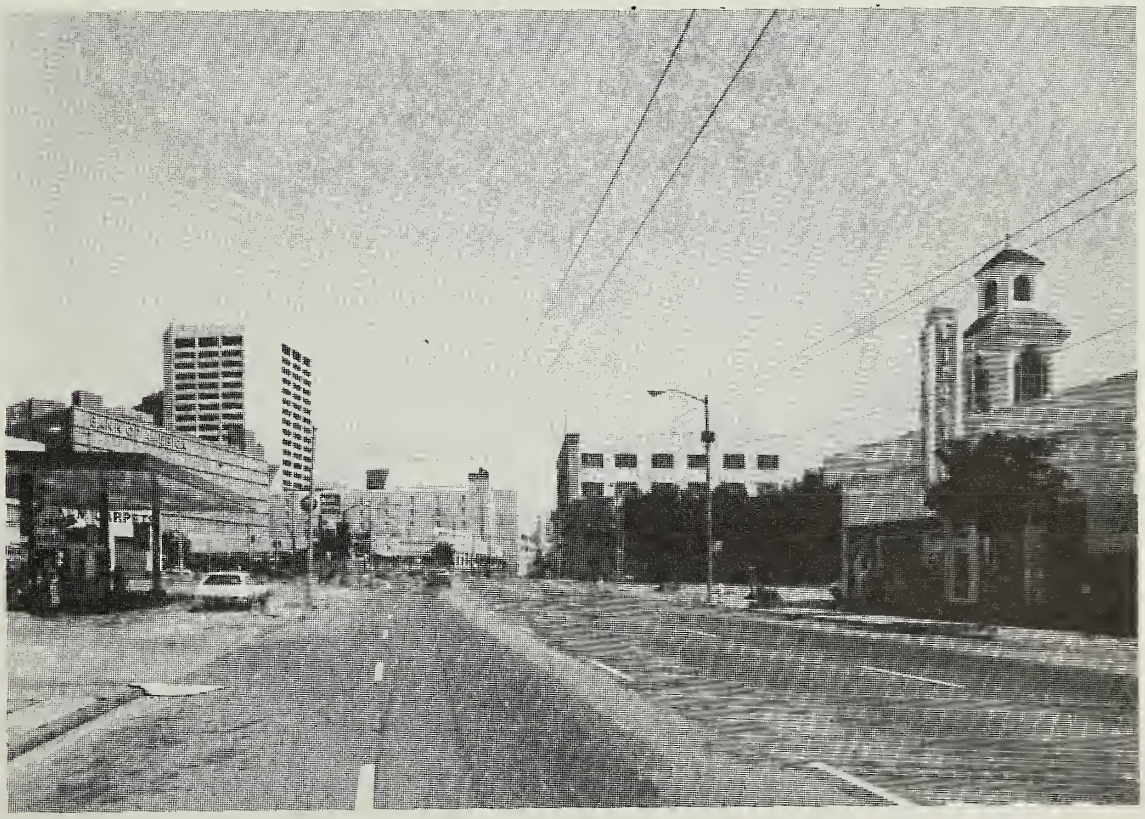
PROJECT AREA PHOTOS

FIGURE 13

VIEW OF PROJECT SITE LOOKING SOUTHWEST ON MISSION STREET



VIEW OF PROJECT SITE LOOKING NORTHEAST ON MISSION STREET

SOURCE: EIP ASSOCIATES

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PROJECT AREA PHOTOS

FIGURE 14

LOOKING NORTH ON SOUTH VAN NESS

VIEW OF PROJECT SITE LOOKING SOUTH ON SOUTH VAN NESS

SOURCE: EIP ASSOCIATES

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south down South Van Ness Avenue is of low-rise buildings and parking lots, enclosed by the Central Skyway with Bernal Heights in the distance. Views northeast down Mission Street are of medium-rise buildings, with the Financial District and other highrise development south of Market Street in the background. Views southwest along both Mission and Otis Streets are cutoff at the end of the project block by the Central Skyway.

The project site lies at the southern end of the Van Ness corridor, and, due to the slight curve in Van Ness avenue south of Market Street, lies at the visual end of a view corridor (see Figure 15, page 38).

The project site is visible from a variety of locations, and distances. Traveling south on Van Ness Avenue, the project site is visible from as far away as Sutter Street, about three-quarters of a mile. The project site is also visible on the Central Skyway, from the I-80/280 interchange to the Mission/Van Ness offramp, and from the higher elevations in the southern portions of the City including Potrero Hill, Twin Peaks and Bernal Heights.

PROJECT AREA PHOTOS

FIGURE 15

VIEW OF PROJECT SITE LOOKING SOUTH ON VAN NESS AVENUE (FROM GROVE)

VIEW OF PROJECT SITE LOOKING SOUTH ON VAN NESS AVENUE (FROM MARKET)

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C. ARCHITECTURAL AND HISTORIC RESOURCES

The San Francisco Department of City Planning conducted a citywide inventory of architecturally significant buildings in 1976. In the 1976 Department of City Planning Architectural Inventory, approximately ten percent of the City's entire stock of buildings were awarded a rating for architectural merit ranging from a low of "0" to a high of "5". The total number of buildings which were rated from "3" to "5" represent less than two percent of the City's entire building stock.

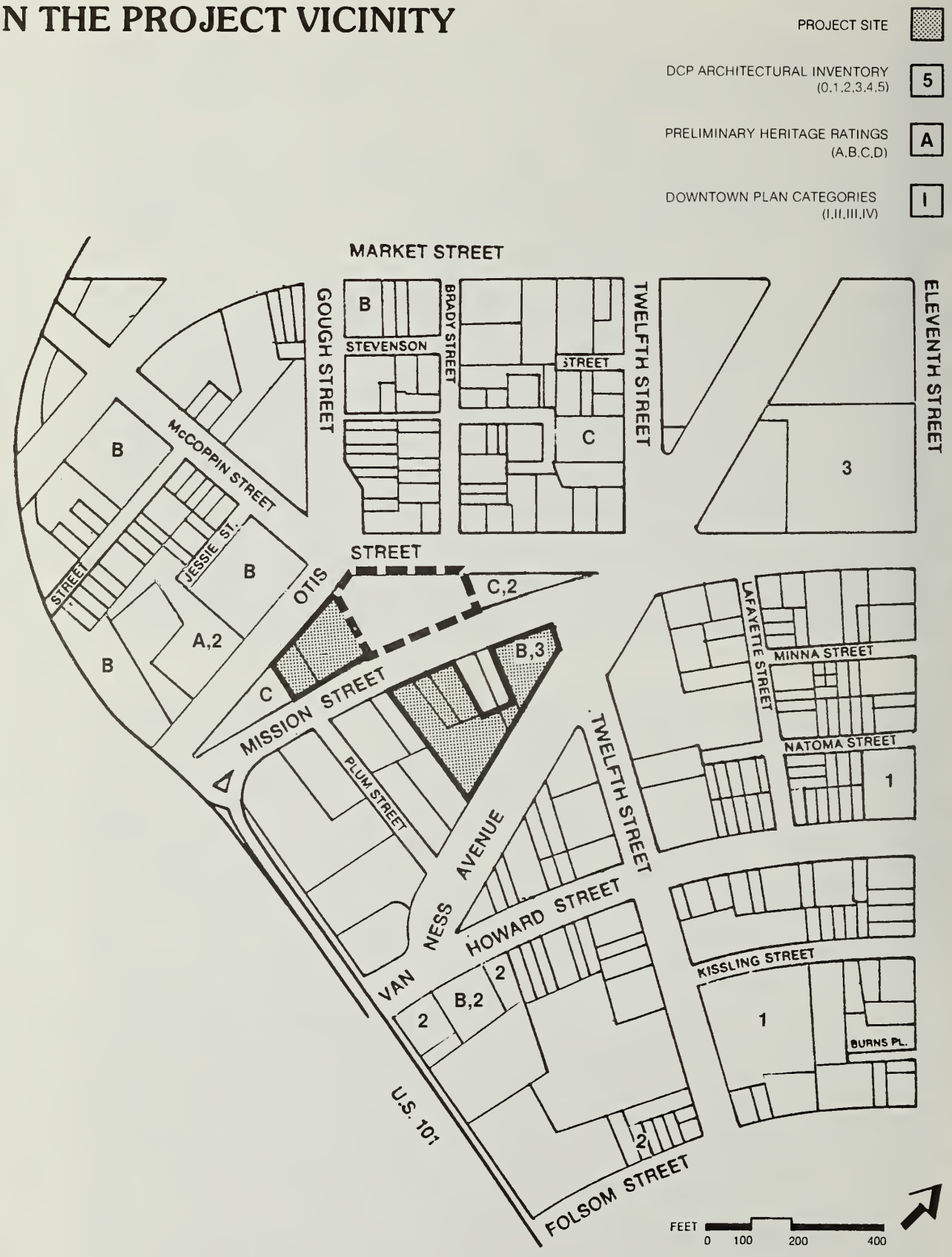
The project site and surrounding area were not included in the 1979 Foundation for San Francisco's Architectural Heritage (Heritage) survey of buildings of architectural and historic merit, as that survey encompassed only the Downtown C-3 zoning districts. Under contract with the Department of City Planning, Heritage has since expanded its survey boundaries and has conducted preliminary ratings of buildings outside and around the C-3 District. These ratings are under review and subject to approval by the Department of City Planning; they have not been officially adopted. The survey has preliminarily rated buildings from a high of "A" (Highest Importance) to "D" (Minor or No Importance). The criteria used in the evaluation were based on guidelines of the National Trust for Historic Preservation, the National Register of Historic Places, and the State Historic Resources Inventory. Figure 16, page 40 identifies those buildings in the project area included in (1) the 1976 Department of City Planning 1976 Architectural Inventory, (2) the Heritage Survey, and (3) The Downtown Plan.

The Downtown Plan categorizes historically and architecturally significant buildings into either Category I or II (significant buildings) or Category III or IV (contributory buildings). It is the intent of the Downtown Plan that only those buildings categorized I, II, III or IV would be protected within the C-3 area. The project site is not within the C-3 District and, thus, is not within the area studied in the Downtown Plan.

The Firestone Tire Shop building, located on the project site at 140 South Van Ness Avenue near the intersection of Mission Street and South Van Ness Avenue, was rated "3" in the 1976 Architectural Inventory and has also been assigned a preliminary rating of "B" by Heritage. According to Heritage, the Firestone Tire Shop building was constructed in 1926-1927. The building is considered significant by Heritage due to its Spanish colonial

ARCHITECTURALLY AND/OR HISTORICALLY RATED BUILDINGS IN THE PROJECT VICINITY

FIGURE 16



SOURCE: EIP ASSOCIATES

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revival style with a Georgian influence, a genre of architecture which was very popular in the 1910-1920 period. The manner in which this style was adapted for automobile use, the prominence of the building as an emblem of the automobile-oriented development and industrial pattern in the area, and its position as a visual anchor at the end of Van Ness Avenue are also factors in this rating (Figure 16, page 40).

The Department of Social Services Building at 161 Otis Street, across from the proposed Building II was rated "2" in the 1976 Architectural Inventory and has been preliminarily rated "A" by Heritage. The Pacific Telephone building, at the corner of Otis and McCoppin Streets and the Bekin's warehouse building at the corner of Otis and 13th Streets were not rated in the 1976 Architectural Inventory but have been preliminarily rated "B" in the Heritage survey. The Union Service Station, across Mission Street from the proposed east wing of Building III and adjacent to the existing Van Ness Plaza building, was rated "2" in the 1976 Inventory and has been preliminarily rated "C" by Heritage. Also on the Building II project block, the 1680 Mission Street building, was not rated in the 1976 Architectural Inventory but has received a preliminary rating of "C" by Heritage. The only other building in the project vicinity receiving ratings of "3" in the 1976 Architectural Inventory is the Coca Cola Building at 1500 Mission Street. No buildings in the project vicinity were rated "4" or "5" in the 1976 Architectural Inventory. Other buildings in the project area which have been preliminarily rated "B" by Heritage include the Foremost Dairy building at 1675 Howard Street, the Salvation Army building at the corner of McCoppin and Valencia Streets and two small residential buildings near the intersection of Market and Gough Streets.

D. TRANSPORTATION

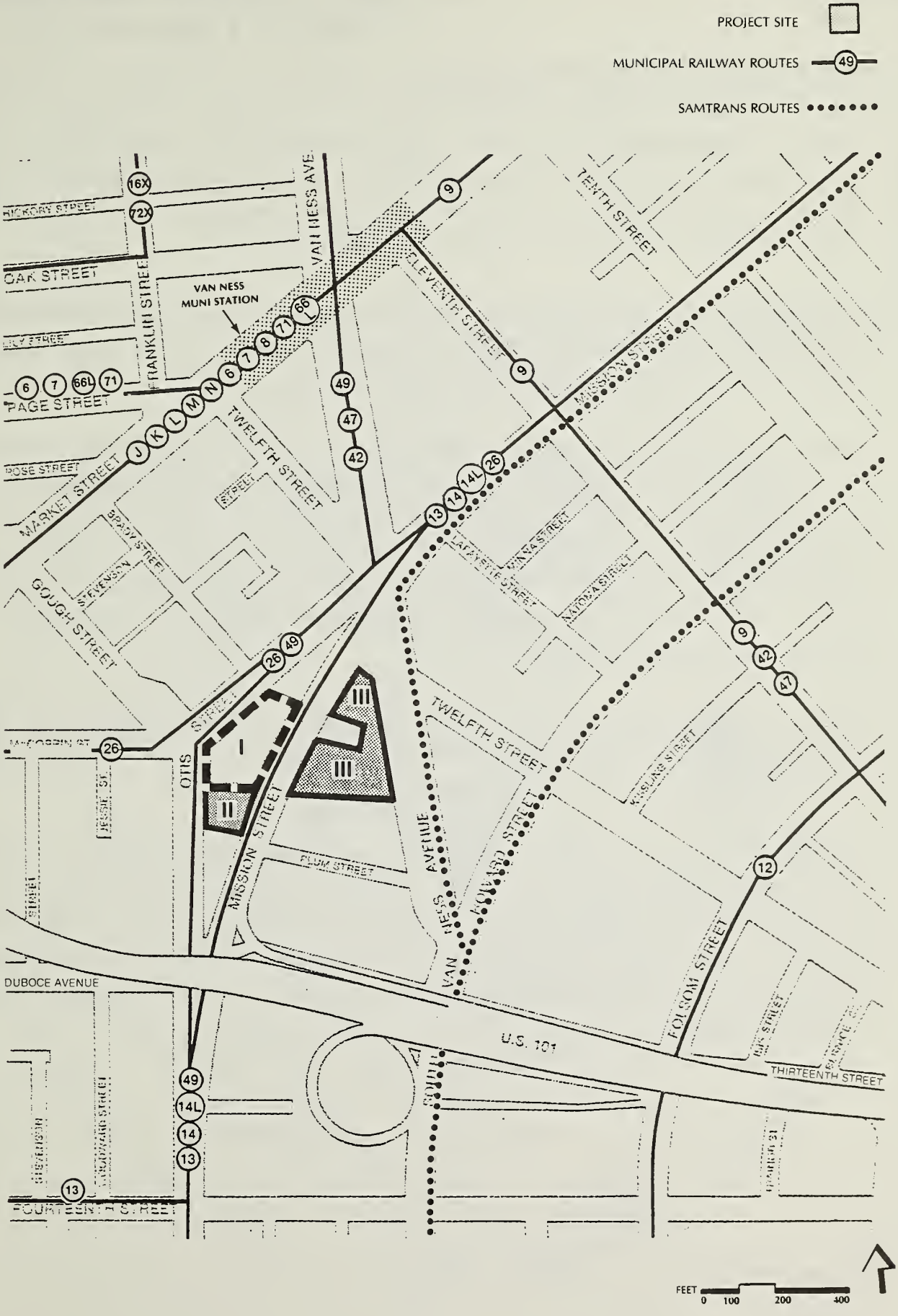
Primary intra-city access to and from the project area would occur on South Van Ness Avenue, Market, Mission, Howard, Duboce, Valencia, 13th and Otis Streets. South Van Ness, Howard, Valencia, and a block of Market Street are designated "Primary Vehicular Streets" in the Transportation Element of the City's Master Plan, while Mission, Otis and Market are designated "Transit Preferential Streets" in the Downtown Transportation Plan.[1] Regional access to and from the East Bay and Peninsula is available via the Bay Bridge and Highway 101 with on-ramps at South Van Ness/13th Street and off-ramp at Mission/Duboce. Traffic to the North Bay generally travels north along Van Ness Avenue.

Six Muni bus routes directly serve the site (see Figure 17, page 43). The 13-Guerrero provides weekday peak period service from the site to the foot of Twin Peaks and the Ferry Terminal via Mission Street. The 14-Mission also operates on Mission Street, traveling between Daly City and the Ferry Terminal. The 26-Valencia weekday and weekend service connects the site to 5th and Mission to the east and San Francisco State University to the west. The 42 Downtown loop circulates within the entire downtown area and links the site to the Fishermans Wharf area via Van Ness Avenue and to the Caltrain depot at 4th Street and Townsend. The 47-Van Ness/Potrero runs between North Point and 25th and Hampshire Streets via Van Ness Avenue and Potrero Avenue. The 49-Van Ness/Mission connects the City College of San Francisco with Fort Mason. In addition, the site is within one to two blocks of the five Muni Metro lines and 10 additional Muni bus routes, and four to five blocks to BART stations at the Civic Center and 16th and Mission Streets. Golden Gate Transit service to the North Bay is available five blocks away at McAllister Street. Samtrans bus lines run adjacent to the project site on South Van Ness Avenue.

Otis Street is a one-way street from north to south, Mission Street is a one-way street traveling through the project area, from 13th Street to South Van Ness, but a two-way street as it approaches and leaves the area. Duboce, South Van Ness, and 13th Streets are all two-way streets.

TRANSIT SYSTEM

FIGURE 17



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During a midday site visit, vehicle traffic was moving freely in all directions. Parking in the off-street lot had 31 stalls available, while on-street parking was fully utilized. There was some double-parking in front of the hardware supply store on Mission Street. One public parking lot currently occupies approximately one-third of the project site. It is operated as a park and lock lot with a minimum daily parking fee of $2.50. The lot has a total of 175 stalls which are 82% occupied on a typical weekday.[2]

A survey of the existing public parking lots and garages[2] in the site vicinity indicates that a total of 887 parking stalls exist within four blocks of the site. On a typical weekday these facilities are 74% occupied (see Figure 18, page 45).

During the p.m. peak hour four to five spaces were available on-street and the off-street lot had emptied half its vehicles. Heavy vehicular traffic was observed heading north on South Van Ness in the direction of the Golden Gate Bridge, south on Otis towards Highway 101 and west on Duboce towards Market Street and west San Francisco. The queue of cars traveling in these directions was just able to clear the intersection in one signal change. During this time bus activity on Mission Street was frequent, about one bus or more per each five-minute interval.[3]

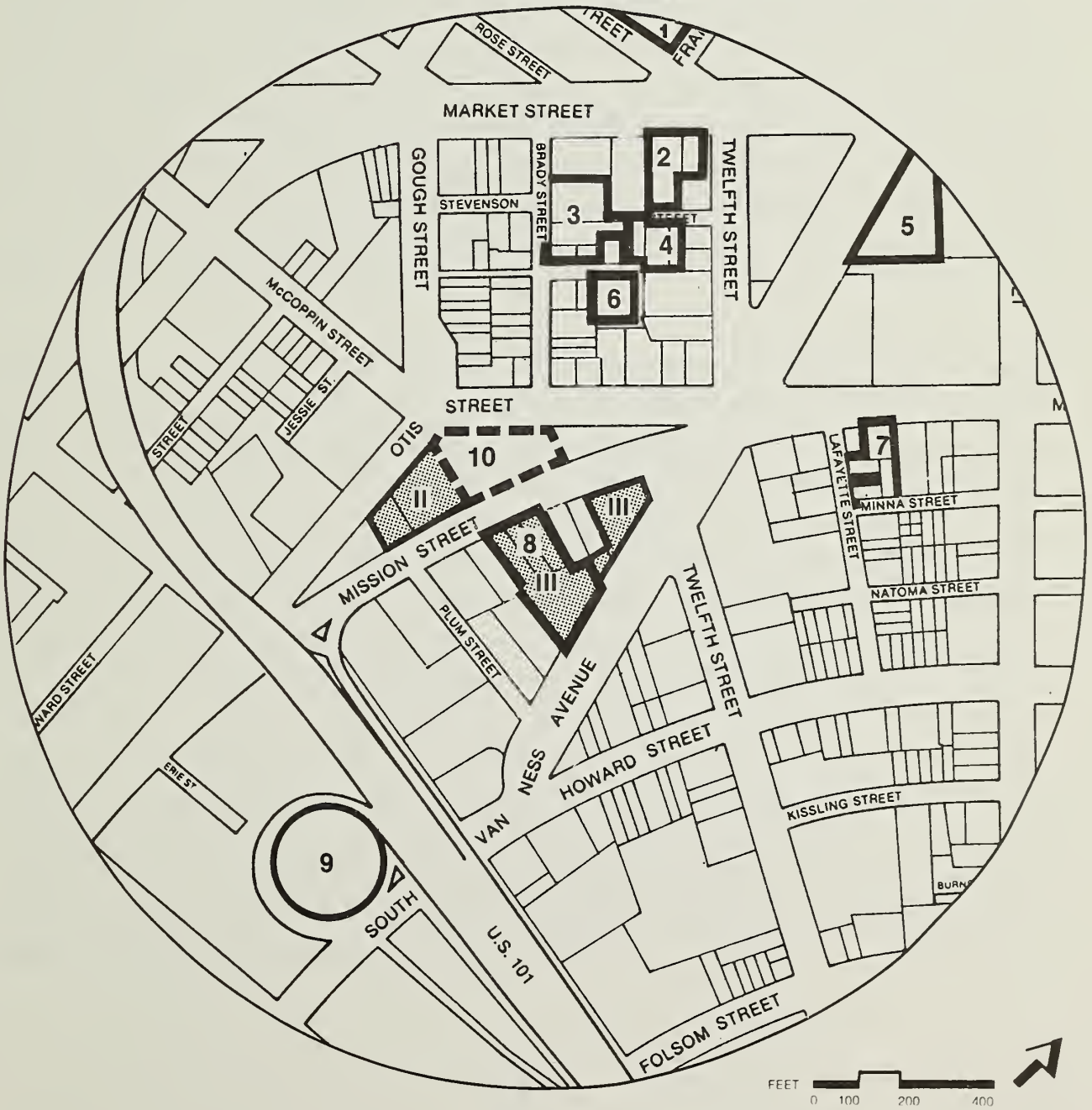
Mission, Howard, Valencia and Market Streets have been designated Preferred Commute Bicycle Routes in the Transportation Element of the City's Master Plan. None of these streets has been striped with bicycle lanes.

Adjacent to the site there are sidewalks along Otis, Mission and South Van Ness. The sidewalks along Otis are six feet wide and those along the west side of Mission are ten feet wide. The sidewalks along South Van Ness and the east side of Mission are twelve feet wide. A field survey found that noon hour pedestrian conditions on the Otis, Mission Street, and South Van Ness sidewalks were open with p.m. peak hour conditions lighter than the noon hour.[3]

PUBLIC OFF-STREET PARKING IN THE PROJECT VICINITY

FIGURE 18

PARKING FACILITY NUMBER	NUMBER OF SPACES	PARKING FACILITY NUMBER	NUMBER OF SPACES
1	68	6	43
2	60	7	46
3	114	8	175
4	59	9	80
5	160	10	82
1350-FOOT PARKING SURVEY AREA		TOTAL	887



[1] Primary Vehicular Street is defined as a crosstown thoroughfare whose primary function is to link districts within the City and to distribute traffic from and to the freeways, a route generally of citywide significance. Transit Preferential Street is defined as an important street for transit operations where interference with transit vehicles by other traffic should be minimized. Source: "Transportation: An Element of the Master Plan", Department of City Planning, City and County of San Francisco, January 1983.

[2] EIP Associates field survey, December 3, 1985.

[3] EIP Associates field survey, December 4, 1985.

E. AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six air pollutants: ozone (O_3), carbon monoxide (CO), total suspended particulates (TSP), lead (Pb), nitrogen dioxide (NO_2), and sulfer dioxide (SO_2). On the basis of the monitoring data, the Bay Area, including San Francisco, currently is designated a non-attainment area with respect to the federal ozone and CO standards. A three-year summary of the data collected at the BAAQMD monitoring station nearest the project site (about 1.5 miles southeast at 900 23rd Street) is shown in Appendix E, page A-46, together with the corresponding federal and/or state ambient air quality standards. In 1984, there was one violation of the federal and state eight-hour CO standard, one violation of the federal and state eight-hour CO standard, and five violations of the previous state 24-hour average TSP standard; in 1983, there was one violation of the federal and state one-hour average ozone standards and four violations of the previous state 24-hour average TSP standard; and in 1982 there was one violation of the federal and state eight-hour standard, and three violations of the state 24-hour average TSP standard.[1]

BAAQMD has conducted two CO "hotspot" monitoring programs in the Bay Area, including San Francisco. One CO monitoring program was conducted during the winter of 1979-80 and included the intersection of Washington and Battery Streets in San Francisco, about two miles northeast of the site.[2] The high eight-hour average concentration was 10.1 ppm, which violates the 9-ppm state and federal standards by 1.1 ppm. The high one-hour average concentration of 15 ppm does not violate the 20-ppm state standard or the 35-ppm federal standard. Another CO monitoring program was conducted during the winter of 1980-81 at the intersections of Geary and Taylor Streets, about 1.5 miles northeast of the site, and 100 Harrision Street at Spear, about 2 miles northeast of the site.[3] At Geary and Taylor the observed high eight-hour average concentration was 11.5 ppm, which violates the standards by 2.5 ppm, and the high one-hour concentration was 15 ppm, which does not violate standards. At Harrision Street the observed high eight-hour and one-hour average concentrations were 7.8 ppm and 13 ppm, respectively, which do not violate standards. These data indicate that locations in San Francisco near streets with high traffic volumes and congested flows may experience violations of the eight-hour CO standard under adverse meteorological conditions.

Comparisons of these data with those from other BAAQMD monitoring stations indicate that San Francisco's air quality is among the least degraded of all the developed portions of the Bay Area. Two of the three prevailing winds, westerly and northwesterly, blowing off the Pacific Ocean reduce the potential for San Francisco to receive pollutants from elsewhere in the region.

San Francico's air quality problems, primarily CO and TSP, are due largely to pollutant emissions from within the City. CO is a non-reactive pollutant with the one major source category being motor vehicles. CO concentrations are generally higher during periods of peak traffic congestions. TSP levels are relatively low near the coast, increase with distance inland, and peak in dry, sheltered valleys. The primary sources of TSP in San Francisco are demolition and construction activities, and motor vehicle travel over paved roads.

San Francisco contributes to air quality problems, primarily ozone, a regional problem, in other parts of the Bay Area. Ozone is not emitted directly, but is produced in the atmosphere over time and distance through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NOx) emissions, which are carried downwind as the photochemical reaction occurs. Ozone standards are exceeded most often in the Santa Clara, Livermore, and Diablo Valleys, because local topography and meteorological conditions favor the buildup of ozone and its precursors there.

In 1982, emissions from motor vehicles were the source of 86% of the CO, 46% of the hydrocarbons (HC), 44% of the TSP, and 56% of the nitrogen oxides (NOx) in San Francisco, while power plant fuel combustion was the largest single source of sulfur oxides (SOx), about 33% of the total.[4] These percentages are expected to apply reasonably well to current conditions.

In response to the Bay Area's ozone and CO nonattainment designations, the Association of Bay Area Governments (ABAG), BAAQMD, and the Metropolitan Transportation Commission (MTC) prepared and adopted the 1982 Bay Area Air Quality Plan, which establishes pollution control strategies to attain federal ozone and CO standards by 1987 as requred by federal law.[5] These strategies were developed on the basis of detailed

subregional emission inventories and projections, and mathematical models of pollutant behavior, and consist of stationary and mobile source emission controls and transportation improvements. The BAAQMD, MTC, and California Bureau of Automotive Repair (a state agency) have primary responsibility for implementation of these strategies.

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[1]State standards for particulate matter changed in 1983 to concentrate on fine particulate matter which through inhalation has been demonstrated to have health implications. Concentration standards also changed. There is not yet an adopted method for monitoring fine particulate matter. Until the State adopts a method, it is not possible to determine what proportion of TSP in San Francisco would be subject to review against the new standards.

[2]Association of Bay Area Governments, AQMP Tech Memo 33, "Summary of 1979/1980 Hotspot Monitoring Program," Berkeley, California, June 1980.

[3]Association of Bay Area Governments, AQMP Tech Memo 40, "Results of the 1980/1981 Hotspot Monitoring Program for Carbon Monoxide," Berkeley, California, January 1982.

[4]Bay Area Air Quality Management District (BAAQMD), "Base Year 1982 Emissions Inventory, Summary Report", San Francisco, California, November 1, 1982.

[5]Association of Bay Area Governments (ABAG), BAAQMD and MTC, 1982 Bay Area Air Quality Plan, Berkeley, California, December 1982.

F. EMPLOYMENT, RESIDENCE PATTERNS AND HOUSING

1. On-site Employment

The project site currently contains one employment generating use, the Firestone Tire Shop, which employs approximately five persons. The other uses on the project site, the surface parking lot and the vacant buildings on the Building II site, currently generate no on-site employment.

2. San Francisco and Regional Office Market

San Francisco is the major office center in the Bay Area, with approximately 60.6 million gross square feet of office space at the end of 1982. A large share of the office buildings in San Francisco has been built since 1965. Citywide, from 1965 through 1981, 29.5 million sq.ft. of space was constructed in office buildings. The annual average construction for this 17-year period was 1.7 million sq.ft. The five-year annual average construction remained relatively constant from 1965 through 1979: 1.68 million from 1965-1969, 1.72 million from 1970-1974, and 1.63 million from 1975-1979. Annual average office building construction increased to 2.16 million sq.ft. for the 1980-1981 period. If the space completed between 1982 to 1984 is combined with the 1980-1981 figures, the five-year annual average for 1980 through 1984 will be 2.48 million sq.ft. of space in new office buildings.[1]

The majority of space in office buildings built in San Francisco has been constructed in the C-3 District. Office building construction in the C-3 District as described in the Downtown Plan averaged 1.5 million sq.ft. per year from 1965 through 1981. This amount represents 88% of citywide annual average development for the period.[2] The more recent C-3 District development has maintained a similar percentage.

Office space projections in the Downtown Plan EIR indicate the C-3 District would contain approximately 70.5 million gross square feet of office space by 1990, and 78.9 million gross square feet of office space by 2000.[3]

Vacancy Rates

On the basis of a 1984 citywide survey of 315 office buildings, the San Francisco Building Owners and Managers Association (BOMA) reported a citywide vacancy rate of 6.8%.[4] This rate is a decrease from the 7.7% rate reported by BOMA in its 1983 survey, and an increase over the 3.69% rate reported in its 1982 survey and the 1.04% rate reported in its 1981 survey. According to a March 1985 Coldwell Banker survey, the vacancy rate in downtown San Francisco office buildings (new, existing and major renovations and including the South of Market area) was 10.9%.[5] The 10.9% rate is an increase from 0.1% during March 1981 and 5.9% during March 1983 (earlier Coldwell Banker surveys). The vacancy rate for March 1985 is the highest that has been reported for San Francisco since Coldwell Banker started this survey in 1978. The current 10.9% vacancy rate is the eighth lowest of the 33 major financial districts surveyed by Coldwell Banker. For comparison, as of March 1985 the downtown office vacancy rate was 15.3% nationally; 10.5% in Chicago; 8.5% in downtown Manhattan; 17.3% in Dallas; and 18.7% in San Jose.[5]

The surveys indicate a general trend of increasing vacancy rates for downtown San Francisco office buildings over the last three years. This increase is the result of several factors, including an increase in the amount of available office space (new space being completed and space available for sublease), and a decrease in the growth rate of demand for office space due to the nationwide economic recession over the last several years. Space nearing completion in new buildings may result in higher vacancy rates than existed in the late 1970s and early 1980s. However, according to Coldwell Banker, "Demand for prime office space in San Francisco's financial district remains strong as evidenced by healthy levels of preleasing activity in new building and a . . . vacancy rate considerably below the national average."[6]

There has been a concurrent demand for and development of office space elsewhere in the Bay Area. Some businesses have moved clerical, support and production departments to outlying areas while maintaining headquarters and main branch offices in San Francisco. In particular, the City of Oakland, and San Mateo and Contra Costa Counties are experiencing increased demand for office space. For example about 17 million square feet of office space is proposed or under construction along the U.S. 101 corridor in San Mateo County.[7] This total includes projects in various stages of public review, not all of which may be approved or built.

Commercial Rents

As a result of demand in San Francisco and increasing operating costs, land prices, construction costs, and interest rates, annual rents for office space in the financial district north of Market Street tripled in the last decade, from $8.50 per sq. ft. in 1970 to approximately $30 per sq. ft. in 1981.[8] New buildings are able to charge the highest rents, while rents in older buildings in the financial district are less expensive, averaging approximately $15 per sq. ft. less than in new buildings.[9] The rents for new office space in San Francisco ($25 to $42 per sq. ft.) are about 40% to 55% higher than commercial rents in Oakland ($18 to $27 per sq. ft.); the Peninsula ($18 to $24 per sq. ft.); and Contra Costa County ($16 to $27 per sq. ft.).[10] Higher vacancy rates would be expected to decrease the pressure for higher commercial office rents in San Francisco. The rising vacancy rates discussed on p. 51 have been (and could continue to be) beneficial to lessees of office space by both lowering rents and increasing business choices for size, layout and location of office space.

3. Residential Hotel Units

The building at 1668 Mission Street, on the Building II project site, contains the fire damaged and vacant Evergreen Hotel, a 26-unit residential hotel. The hotel was classified as a residential hotel under the San Francisco Residential Hotel Unit Conversion and Demolition Ordinance prior to the fire.

4. Residence Patterns and Housing

From the cumulative perspective of both the amount of future development and the regional context for the impacts of this development, two aspects of the analysis of housing-related impacts are important: residence patterns and housing market implications. Residence patterns describe the distribution of workers by place of residence for San Francisco and the rest of the Bay Area. Analysis of these patterns is useful in assessing the degree to which San Francisco residents benefit from job growth, in estimating travel demand, and in considering the relationship between job growth and labor force and housing throughout the region, as well as in considering the housing market effects of development. The discussion of housing market implications focuses on the link between employment growth and the availability and price of housing, how

changes in the housing market could affect various groups of consumers and how residents' circumstances could change as a consequence of these effects.

As background for the subsequent cumulative impact discussion (Section IV.H, pages 124 to 135), this section presents current residence patterns for downtown workers; discusses trends in labor force, employment and population for the City and the region; and describes current housing market conditions in San Francisco and the region.

The information presented in this subsection is based on the survey and analysis of C-3 District employment and residence patterns prepared for the Downtown Plan EIR. This information does not account for all workers in the greater downtown area (i.e., the project site is located in a C-M District about 200 feet south of the southernmost C-3 District boundary). It does, however, describe the majority of the workforce in the downtown area and it may be assumed that employee characteristics in the non C-3 District areas adjacent to downtown, including residence patterns, would be similar to those found in the C-3 District.

a. Residence Patterns for San Francisco and the Region[11]

In 1984, it is estimated that 159,000 C-3 District (downtown core) workers live in San Francisco. This group represents about 45% of all employed residents of San Francisco. An additional 41% of the City's employed residents work elsewhere in the City including Civic Center, south of Folsom and the South Van Ness area near the project site. Most C-3 District workers (55.5%) are estimated to live in San Francisco in 1984. The next largest group (73,000 or 26%), live in the East Bay. About 35,000 (11.5%) live on the Peninsula and about 19,000 (7%) in the North Bay. While, as mentioned above, those workers represent a relatively large share of the employee population in San Francisco (45%), they represent relatively smaller shares of the employed population in each of the other areas (less than 10% in each).

These current conditions are not static and, in fact, have been changing over time. Trends indicate that the number of San Francisco workers who live in the City is increasing.[12] The percentage of total City employment they represent is declining. Changes in population, housing, labor force and employment in San Francisco and the rest of the region provide background for these trends.[13]

Changes in demographic composition of the City's population have resulted in employment growth (an increase of 24,200 from 1970 to 1980) despite an overall decline in total population (a decrease of 36,700 from 1970 to 1980). The growth in number of employed persons largely reflects higher labor force participation than in the past, as the number of people in their working years (ages 16-64) has been relatively constant.

The number of households and housing units in the City has continued to increase, although by a relatively small amount. Given the population decline, the average number of persons per household has also decreased. Because of the changing composition of the population, however, the number of adults and of employed adults per household has increased.

Demographic trends related to the population and labor force characteristics of the region, outside San Francisco, show similarities to the trends for the City described above. From 1970 to 1980, employment growth exceeded population growth. Employed residents in the rest of the region increased by 670,000 (nearly 45% growth) over the past ten years, while population increased by 588,000 persons (about 15% growth). This reflects both the passing of the baby boom generation into the labor force and the increasing participation of women in the labor force. The growth in number of employed residents exceeded the increase in households and of housing units, so the average number of workers per household increased. The main difference between San Francisco and the rest of the region is the magnitude of the changes, as the amount of growth in population and employed persons was much larger in the rest of the region than in San Francisco.

In the midst of these changes in population and labor force, business activity and employment have continued to grow in San Francisco. Jobs have grown at a faster rate and by a larger amount than the number of employed residents in the City. Thus, although the number of San Francisco jobs held by City residents has increased, the percent of overall San Francisco jobs held by residents has declined. There has been an increase in the percentage of San Francisco jobs held by persons living elsewhere in the region. This indicates the increasing relative importance of housing and labor force outside of San Francisco to jobs in the City.

When considered from the perspective of City residents, the number of employed City residents working in San Francisco increased from 1970 to 1980. Although the percentage of residents working in San Francisco remains high (86% in 1980) this percentage has been declining. Reasons for this trend include the large growth of jobs in other counties of the region and the relocation of some San Francisco jobs to other counties. (San Francisco's share of total regional employment has declined, even though the City's employment has been increased substantially.) Another factor is the increase in households with more than one worker, which increases the likelihood that some workers will commute to jobs outside the City.

The trends described above incorporate a combination of many individual changes in employment and place of residence. Changes in the place of residence of San Francisco or downtown workers occur as individuals are newly employed in San Francisco or in the downtown who had not previously worked there, and as both existing and newly-employed workers move within the region.

The changes that result in individuals being newly employed in the City (who had not previously worked there) can affect overall residence patterns if those newly employed have household and housing characteristics different from those they replaced or from all other workers in the City. They are likely to have different characteristics if the mix of types of jobs is changing (such as more office jobs relative to other types of employment), if the demographic characteristics of the work force in general are changing (such as changes in the age distribution or ethnic/racial characteristics), or if there are changes in the distribution of the labor force within the region (such as more growth in number of labor force members in the areas surrounding San Francisco than in the City itself, or substantially larger growth in San Francisco employment than in employed City residents).

Changes in residence patterns also reflect housing market factors. These factors have been particularly important in the recent past as housing choices (housing types, prices, rents, locations) have changed dramatically over the past five to ten years. Housing is now more costly, relative to incomes and to other goods and services than in the past. Further, a greater share of the region's housing is now located outside San Francisco and City housing has become more costly relative to housing in many other parts of the region

than it once was. While housing choices change over time, their effect on residence patterns primarily occurs when a household enters the market to purchase or rent housing. Thus, as workers change their place of residence, a greater share is likely to live outside San Francisco, and those who choose to reside in the City may have different characteristics from the average of all other employees who secured housing in San Francisco under a different market situation.

b. Housing Market Conditions in San Francisco and the Bay Area Region

Housing Market Context

The housing stock in San Francisco and the region is characterized by low growth rates, low vacancy rates for rental units, and high purchase prices and rental costs in relation to typical wages paid. These factors, some of which would normally stimulate new housing construction, are in part the result of high interest rates and land costs which have constricted the supply and affordability of housing in San Francisco.

Since the early 1970s, housing prices and rents have increased dramatically in San Francisco and throughout the Bay Area. Demand for housing has been strong and supply has not kept pace with demand in many areas. In addition, in the early 1980s there were major changes in financial markets that increased the cost of money for housing. Many different factors contribute to the current housing market situation. These include changing lifestyles, changing demographic and household characteristics, changing household incomes, employment growth, attractiveness of the Bay Area as a place to live, availability and cost of financing, attractiveness of real estate as an investment, no-growth policies in some communities and the increasing scarcity of land in other communities.

As a result of all these factors, many households now allocate a greater share of their financial resources to housing, and the housing choices available at various prices and rents have changed. Many people cannot now afford the housing they prefer and many are not housed at the standard that, until recently, they had come to expect.

Changing Conditions in San Francisco's Housing Market

Over the decade from 1970 to 1980, net additions to the City's housing stock included 6,200 units, an increase of 2%. About 1,900 units were added from 1980 through 1982. Most of the units added were for-sale housing. Overall, about one-third of the City's stock continues to be owner-occupied and about two-thirds renter-occupied. Among Bay Area counties, San Francisco has the largest percentage of units that are renter-occupied.[14]

This net addition represents low growth of the housing stock relative to the strength of demand over this period. The low vacancy rate in San Francisco highlights the severity of the housing market pressures in San Francisco. Data from the Federal Home Loan Bank show a vacancy rate of 0.8% for San Francisco. San Francisco had the lowest housing vacancy among the nine counties of the Bay region in 1980.[15]

These market pressures are part of the explanation for the increase in housing prices in the City. Market trend data based on appraisals indicate that housing value increases averaged 8.5% per year in the early 1970s and over 23% per year from 1975 to 1980. From 1980 to 1983, appreciation slowed to an annual average of about 6%. San Francisco housing prices remain above those for housing in many other parts of the region. The market trend data indicate that the rates of increase in San Francisco have exceeded those in most other areas.[16]

Rents in San Francisco have also increased. Census data indicate that median contract rent more than doubled from 1970 to 1980, for an average annual growth of 7.6%. Rents in San Francisco generally cover a wider range than rents in other parts of the region, including some of the lowest rental housing and some of the most expensive rental units in the region.[17]

Despite rising housing prices and rents, the private market continues to be unable to produce enough new housing to relieve competitive pressures. Because of the high costs of land, financing and construction, the private market cannot produce housing that is affordable to many households. There is particular difficulty in producing rental housing, since residential rents, unlike for-sale housing prices, have not kept pace with rising construction and land costs, or with inflation.

Incomes of City residents have not kept pace with increases in the costs of housing. During the 1970s, on average, income increased by about 135% over the period while housing costs overall (combining median prices and rent) went up about 165%.[17] Thus, the percentage of income allocated to housing increased.

The percentage of income spent on housing is higher for lower income households; this percentage declines as income increases. Across income categories, the percentage of income spent on housing is higher for renters than for owners. For example, census data show that of the 31% of households with incomes under $10,000 in 1979, on average, the renters spent 48.6% of their income for housing and owners spent 26% for housing. Of the 39% with 1979 incomes of $20,000 or higher, the renters spent 15.7% of their income on housing while the owners spent 11.2%.[17]

In the current housing market, there continue to be incentives to upgrade existing housing. Consumers priced out of higher priced neighborhoods are often attracted to other areas where housing can be secured initially at lower costs and investments made to upgrade the units. As this occurs, desirability of the area improves, prices and rents rise and there are changes in the types and incomes of households in the neighborhood. Moreover, the amount of housing stock available at lower prices and rents is reduced. This phenomenon (often called "gentrification") has occurred in areas of San Francisco, primarily in neighborhoods with housing priced at or below average levels, but not the lowest priced housing in the City. In recent years, increasing preferences for central city neighborhoods and older housing and an increase in the types of households with these preferences have combined with overall competitive market conditions to support upgrading of this type.

Regional Perspective on Housing Market Conditions

Most of the housing market conditions described above for San Francisco are applicable throughout the Bay Area. Increases in home prices and interest rates during the past decade have raised the cost of owning housing. As a result, many first time homebuyers and new entrants into the region's housing market have difficulty affording Bay Area housing. In the rental housing market, a large number of households face this problem. The lack of new construction and continued strong demand support upward pressure on

rents. Among renters, many lower-income households are faced with increasing difficulty securing affordable housing.

Although these conditions exist to some extent in other parts of the country, the Bay Area remains one of the most desirable places to live and has one of the most competitive housing markets in the nation. Because of the limited land area of San Francisco, the role of the City as employment center for the region, and the demographic characteristics of the City's population, the region's market conditions (in terms of supply, demand and price) are at their extreme in San Francisco.

Between 1970 and 1980, 436,200 housing units were added in the Bay Area. Most of the additions were in the East Bay and the Peninsula, each with about 40% of the total increase. The largest percentage increase in housing over the period occurred in the North Bay counties.[17]

The shortage of supply relative to demand is evidenced in the vacancy rates for Bay Area counties. In 1982, the vacancy rate in each Bay Area county was below 2%. With the exception of Solano County (where the 1980 vacancy rate was 3%), this situation has persisted since 1980.[15]

Market trend data on the value of single-family residences in the Bay Area reflect the strong demand for housing in the region. Over the region as a whole, housing values increased almost four-fold between 1973 and 1983; the annual rate of increase in value was about 14% per year, compounded. The pattern is similar among East Bay, Peninsula and North Bay housing sub-markets. In San Francisco, the data indicate somewhat stronger demand and more market pressure on existing units than the average for the region.[16]

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[1]The numbers in this paragraph are from Department of City Planning records and represent total, citywide new construction of space in office buildings without an allowance for demolition. The dates refer to times when projects are completed and are available for occupancy. The space to be completed from 1982 to 1984 includes space in office buildings under construction in 1982. As explained for the 1984 setting later in this section, the average period of construction for large office buildings is

approximately three years. It is assumed that the buildings under construction in 1982 will have space available for occupancy in 1984.

[2]The Downtown Plan, San Francisco Department of City Planning, August 1983 (hereinafter, Plan), p. 10.

[3]Downtown Plan EIR, Vol. 1, pp. IV.B.28 and IV.B.31.

[4]Elmer Johnson, Building Owners and Managers Association, telephone conversations, December 22, 1982, June 12, 1984, October 3, 1984 and January 5, 1985.

[5]Coldwell Banker, Office Vacancy Index of the United States, San Francisco vacancy rates are determined as part of a national survey of 32 major office districts conducted quarterly. A copy of the March 31, 1985 survey is on file and available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister Street, San Francisco, California.

[6]Coldwoll Banker, Office Vacancy Index of the United States, June 30, 1983.

[7]Blaney-Dyett, Urban and Regional Planners, Proposed Specific Plan: Bayshore Office Park and Baylands Development Area, Brisbane, California, July 1982, and Metropolitan Transportation Commission, Travel Impacts of Proposed Development on the Peninsula Along Route 101, September 9, 1982.

[8]San Francisco Department of City Planning "Memorandum to the City Planning Commission, South of Market Interim Controls," January 26, 1982.

[9]James Hoagland, Leasing Broker, Cushman and Wakefield, telephone conversation, November 12, 1984.

[10]Coldwell Banker, "The Commercial Real Estate Market in the San Francisco Bay Area," December 1982.

[11]The data and information in this sub-section are based on a survey and analyses of C-3 District employment and residence patterns prepared for the Downtown Plan EIR (EE81.3). This information, therefore, does not account for all workers in the greater downtown area; it does, however, describe the majority of the workforce in that area. The residence patterns for C-3 District workers in 1984 are presented in the Downtown Plan EIR on pages IV.D.36-39 and, in the context of future residence patterns, in Table IV.D.15 on page IV.D.64. The survey results related to the residence patterns of C-3 District workers are presented in the setting section of Residence Patterns and Housing (Section IV.D.) in the Downtown Plan EIR, which is available for review at the Department of City Planning.

[12]The trends summarized here are discussed in more detail with relevant tables in the Downtown Plan EIR, pages IV.D.42-53, which are hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

[13]Population and employment data from the U.S. Census, 1960, 1970 and 1980 for San Francisco and the region are the basis for the following text discussion. See Downtown Plan EIR (EE81.3, certified October 18, 1984), Table IV.D.14, page IV.D.48, and related discussion on page IV.D.48.

[14]U.S. Department of Commerce, 1970 Census of Population and Housing, and 1980 Census of Housing and San Francisco Department of City Planning, Residence Element of the Comprehensive Plan, June 1984.

[15]Real Estate Research Council, Year-End 1982 Report - August 1983, Volume 34/Numbers 2 and 4.

[16]Real Estate Research Council, Market Trend Report - April 1983, Volume 35/Number 1.

[17]U.S. Department of Commerce, 1970 Census of Population and Housing, and 1980 Census of Housing.

IV. ENVIRONMENTAL IMPACTS

An Initial Study of the proposed project was published on May 3, 1985 and it was determined that an Environmental Impact Report (EIR) was required. The Initial Study concluded that the following issues required no further study since they would either have insignificant impacts or the impacts would be mitigated to insiginificant levels through mitigation measures included in the building design or committed to in the Initial Study: light, on-site population, operational noise, construction and operational air quality, wind, shadows, biology, geology/topography, water, hazards, utilities/public services and cultural. Therefore this EIR does not discuss the above issues. Energy impacts were focused out of the EIR in the Initial Study (page A-20) but have been included in order to provide additional information in the EIR. The Initial Study is incorporated as Appendix A, pages A-1 to A-27, and may be referred to for discussion of these issues.

Not all of the impacts discussed in this section are physical environmental effects as defined by the California Environmental Quality Act (CEQA). They are included for informational purposes only.

A. LAND USE AND ZONING

1. Land Use

The existing building and parking lot would be demolished and the sites for Buildings II and and the west wing of Building III would be excavated for construction of the proposed project. The site for the east wing of Building III would not be excavated. The proposed project would increase the intensity of the current uses on the site (retail and parking) and would add office and open-space uses. Total gross constructed area, including all commercial space, parking, open space and mechanical area would increase from 52,000 to 608,290 square feet. Gross floor area, excluding parking, open space, and most mechanical area would increase from about 52,000 to 464,735 square feet, an increase in

TABLE 3

PROJECTED CHANGE IN LAND USES
(in gross square feet)

Land Use	Existing (to be demolished)	Proposed	Net Change
Office	0	431,949	+431,949
Retail and Auto Service Bays	20,000	32,786	+12,786
Open Space	0	27,860	27,860
Existing Vacant Space	32,000[1]	-	-32,000
Parking & Loading	0 (175 spaces on surface)	115,695 (519 spaces and 5 loading docks)	+115,695 (344 spaces and 5 loading docks)
Total Constructed Area	52,000	608,290	+556,290
Total Gross Floor Area as defined by City Planning Code (not including parking, loading and open space)	52,000	464,735	+412,735

[1]This space total consists of 20,000 square feet of office/auto leasing space in the Leslie Leasing Building, 5,000 gsf of retail space and 7,000 gsf (26 units) of residential space in the Evergreen Hotel.

SOURCE: EIP Associates

FAR from 0.6:1 to 5.4:1. Table 3, (page 63) summarizes the changes in intensity by land use category.

Van Ness Plaza (Building I) was approved in 1982 (82.14E) and was occupied in the Fall of 1985. There are no other projects proposed, approved or under construction in the project area.

The proposed project would increase retail space on the project site by about 12,786 gross square feet and would add 431,949 gsf of new office space. In conjunction with the Van Ness Plaza project, the proposed project would contribute to an intensification of office and retail land uses in the South Van Ness area.

2. Zoning

The proposed project would develop the project site to an FAR of 5.4:1, compared to the 9.0:1 FAR allowed by Section 124(a) of the City Planning Code and the 0.6:1 FAR of the buildings currently on the site.

Each of the two buildings in the proposed project would reach the maximum height of 105 feet. Building II would have a length of 154 feet along Otis Street and 168 feet along Mission Street above 40 feet, 96 feet and 82 feet less, respectively, than the 250 foot maximum length permitted by the City Planning Code. This building would have a diagonal dimension of 186 feet, 114 feet less than the 300 foot maximum permitted. Building III would have a length of 183 feet along Mission Street and 176 feet along South Van Ness Avenue above 40 feet, 67 feet and 74 feet less, respectively, than the 250 foot maximum allowed by the Code. This building would have a maximum diagonal dimension of 300 feet, the same as the 300 foot maximum.

The 519 valet-style (244 self-park) parking spaces in the proposed project would be 375 less than the 894 spaces required in Section 151 of the City Planning Code. As part of Conditional Use authorization for a Planned Unit Development, the sponsor would request from the City Planning Commission permission to provide fewer off-street parking spaces than required by the Code. The five off-street freight loading spaces for large trucks

provided in the proposed project would exceed the requirement in Section 152 of the City Planning Code (see discussion regarding City Planning Commission Resolution 9286, pages 29 and 88). The City Planning Commission may authorize a Planned Unit Development where it finds that the project is developed as an integrated unit, is "designed to produce an environment of stable and desirable character which will benefit the occupants, the neighborhood and the City as a whole," and meets the specific criteria of Sections 303 and 304 of the City Planning Code.

Table 4 below summarizes the differences between the characteristics of the proposed project and those permitted under the City Planning Code.

TABLE 4

COMPARISON OF THE PROPOSED PROJECT
WITH THE SAN FRANCISCO CITY PLANNING CODE

	Proposed Project	City Planning Code
Maximum FAR	5.4:1	9.0:1
Height Limit	105 Feet	105 Feet
Maximum Length		
Building II	168	250
Building III	183	250
Maximum Diagonal		
Building II	186	300
Building III	300	300
Open Space (gross square feet)		
Public	10,021 gsf	None Required for Non-Residential Use
Private (Tenant)	17,839 gsf	None Required for Non-Residential Use
Off-Street Parking	519 attendant spaces (244 self-park spaces)	894 spaces
Off-Street Loading	5 loading docks	4 loading docks

SOURCE: San Francisco City Planning Code and EIP Associates

B. URBAN DESIGN

The proposed project would result in the demolition of one three-story building, one two-story building, two one-story buildings, and a surface level parking lot. The proposed project would be about three to four times as high as the prevailing scale of development in the project area.

Each of the buildings in the proposed project would rise to 105 feet above the street. The height of the proposed project would be about 25 to 30 feet higher than most adjacent buildings. Building III would be 7 feet higher than the 98-foot 1663 Mission Street building, adjacent to the southwest. The buildings would have a height equal to about one and a half times the width of Mission and Otis Streets, creating a sense of street enclosure, similar in degree to that found in the downtown area but not common in the South Van Ness area. Building III would have a height about equal to the width of South Van Ness Avenue, creating a greater sense of enclosure than currently exists but maintaining a sense of openness due to the width of the street.

Buildings II and III would have maximum lengths of 168 feet and 183 feet along Mission Street, respectively. Building length would be larger than the existing buildings on site and older development in the project area. The bulk of the proposed buildings would be similar to the existing Van Ness Plaza building and the Bank of America at Market Street and Van Ness Avenue. It would be smaller in bulk than major buildings in the Civic Center.

Each building would include design features intended to minimize apparent bulkiness. Building II would have three setbacks on the eastern side of the project, and adjacent to Van Ness Plaza, providing a visual separation between the two buildings and minimizing potential bulkiness of the two buildings together. Building III, which would be the most prominent of the buildings in the proposed project since it extends the greatest amount into the Van Ness Avenue view corridor, includes a rounded corner at the corner of Mission and South Van Ness, which is emphasized by the glass domed roof similar in style to other domed roofs in the Civic Center area. Building III also includes a concave facade at the main entrance, corresponding to the entrance and glass atrium of Van Ness Plaza,

directly across Mission Street. Facade materials would be of glassfiber reinforced concrete and green/gray granite veneer with green-tinted window glass, similar to the facade of Van Ness Plaza.

The proposed project would become a visual terminus to the Van Ness Avenue Corridor as viewed looking south on Van Ness since the project would be located in the center of the view corridor due to the curve in South Van Ness south of Market Street. The proposed project would be visually prominent from the Central Skyway (Figures 19-25, pages 68 through 74).

It is possible that intermittant glare from the glass on the proposed project would be visible from the Central Skyway during early mornings when the sun is low in the sky from November to February. The amount of glare impacting on the freeway would be minimized by the elevation of the Central Skyway in relation to the proposed project. Since the autos would be about 65 feet above the ground, potential glare from the portion of the project over 65 feet in height would be cast onto the freeway. The project would incorporate the use of green-tinted glass windows which would produce less glare than clear glass windows. It is not possible at this time to determine the exact amount of glare that would be generated by the proposed project since the exact type of glass used would affect such factors as light absorbancy and the degree of reflectibility. A mitigation measure has been included in the project which would require the project sponsor to use a low-glare producing glass in the proposed project, in particular in those windows facing the Central Skyway.

The proposed project would be visible from Bernal Heights and Potrero Hill. It would become part of the foreground of views of the Civic Center, City Hall in particular. The building would not protrude into the Civic Center area skyline.

The Urban Design Element of the San Francisco Master Plan contains policies and principles which may be used to evaluate the proposed project. Table 5, page 75, The Relationship Between Applicable Urban Design Policies of the Master Plan and the Proposed Project, compares the project to these policies.

PHOTOMONTAGES OF THE PROJECT LOOKING SOUTH ON VAN NESS

FIGURE 19

LOOKING SOUTH ON VAN NESS FROM GROVE STREET

LOOKING SOUTH ON VAN NESS FROM MARKET STREET

SOURCE: SQUARE ONE FILM AND VIDEO

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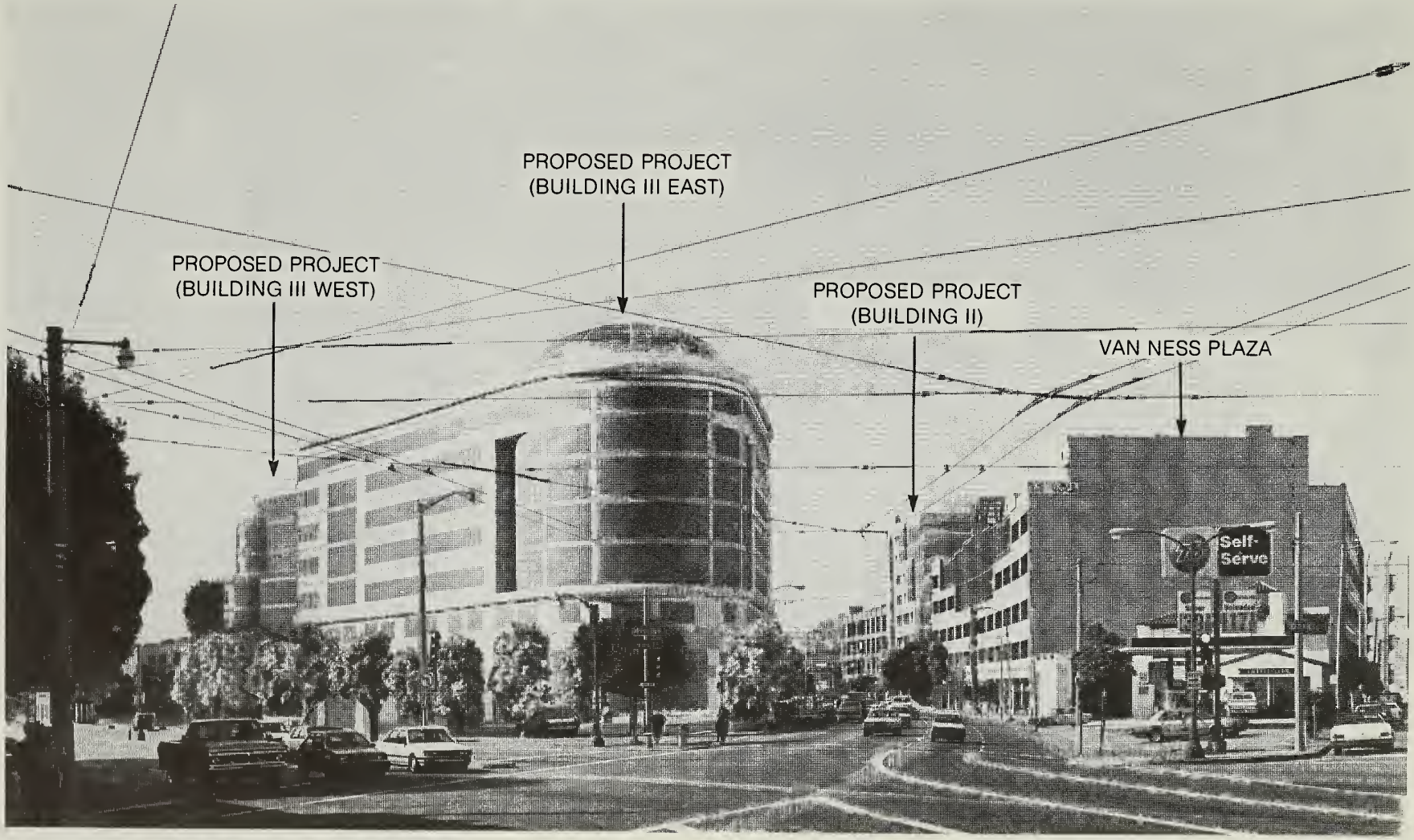
PHOTOMONTAGE OF THE PROJECT LOOKING SOUTHWEST ON MISSION STREET FROM SOUTH VAN NESS AVENUE

FIGURE 20

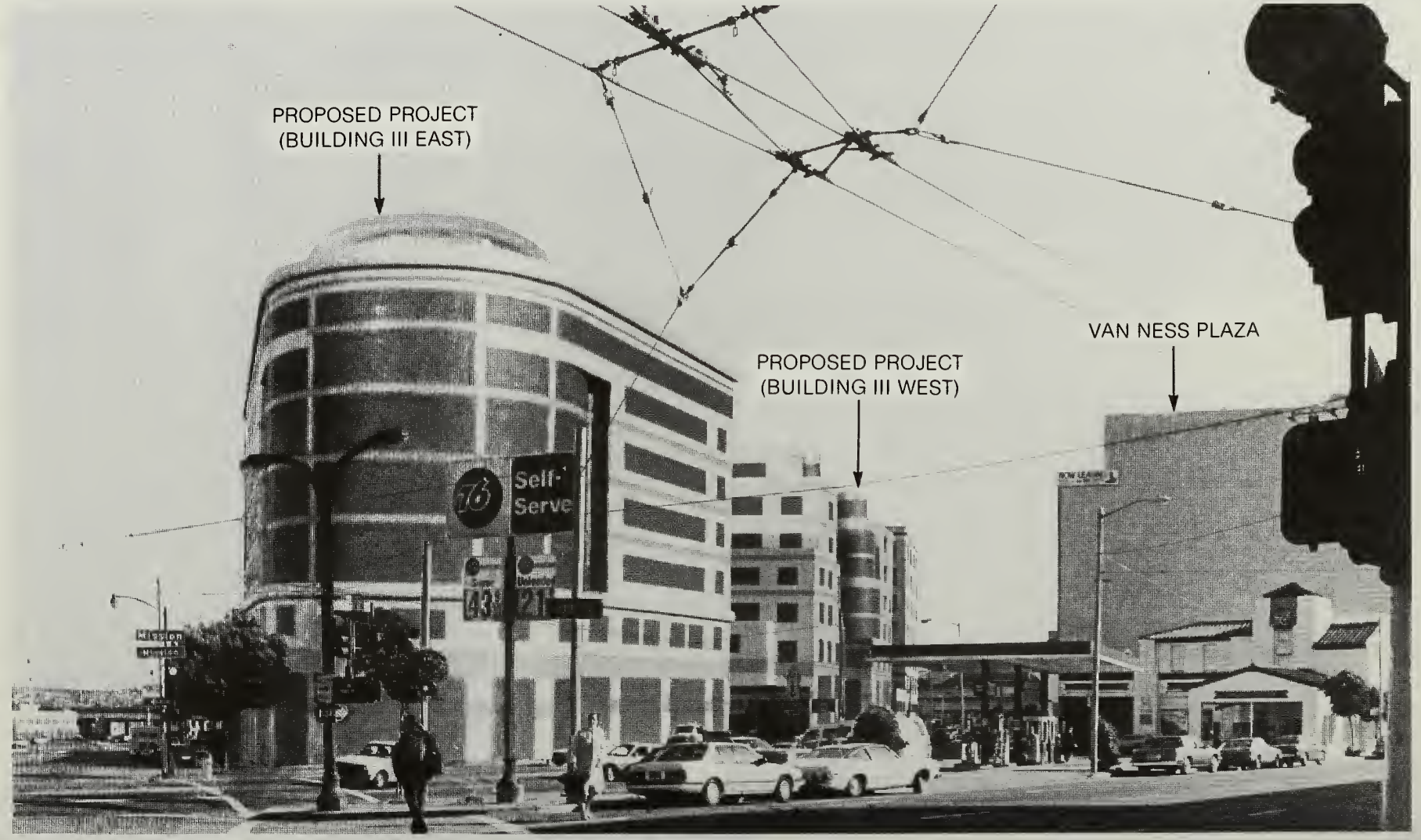


SOURCE SQUARE ONE FILM AND VIDEO

84053

PHOTOMONTAGE OF THE PROJECT LOOKING SOUTH ACROSS MISSION STREET

FIGURE 21

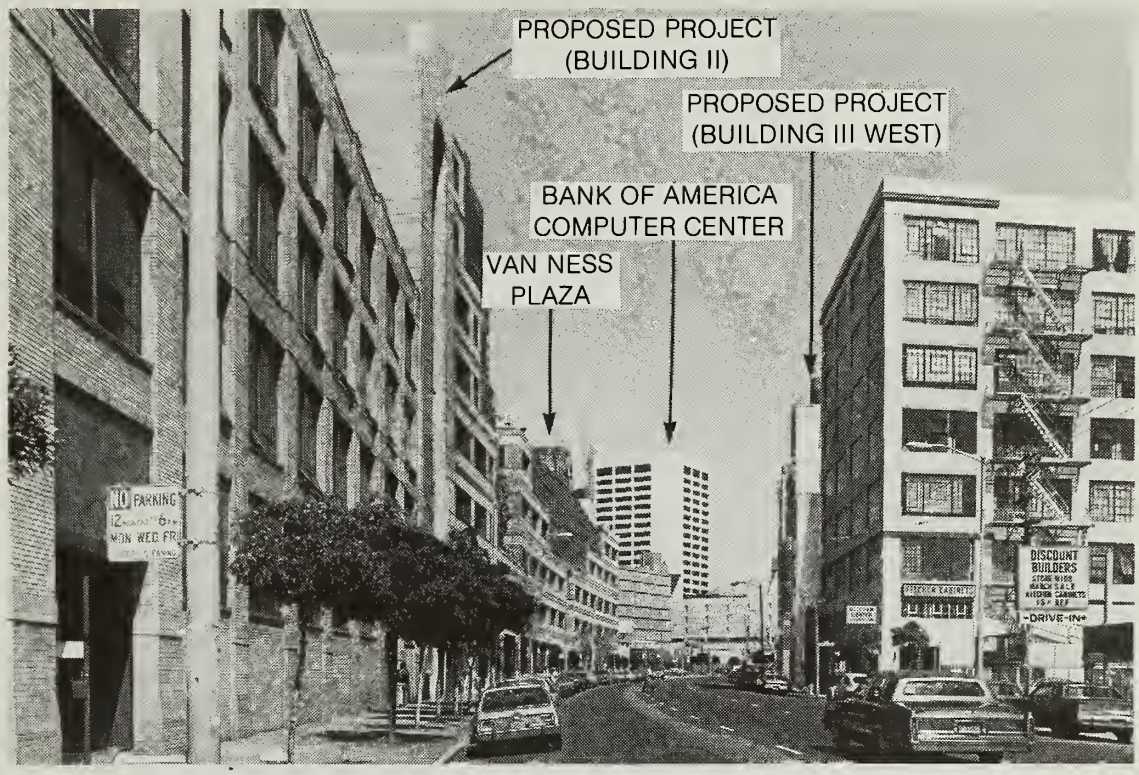


SOURCE: SQUARE ONE FILM AND VIDEO

84053

PHOTOMONTAGES OF THE PROJECT LOOKING NORTHEAST ON MISSION STREET

FIGURE 22



LOOKING NORTHEAST ON MISSION STREET FROM 1680 MISSION STREET

LOOKING NORTHEAST ON MISSION STREET FROM DUBOCE STREET

SOURCE: SQUARE ONE FILM AND VIDEO

84053

PHOTOMONTAGE OF THE PROJECT LOOKING SOUTHEAST ON TWELFTH STREET

FIGURE 23

SOURCE: SQUARE ONE FILM AND VIDEO

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PHOTOMONTAGE OF THE PROJECT LOOKING NORTH ON SOUTH VAN NESS

FIGURE 24

SOURCE: SQUARE ONE FILM AND VIDEO

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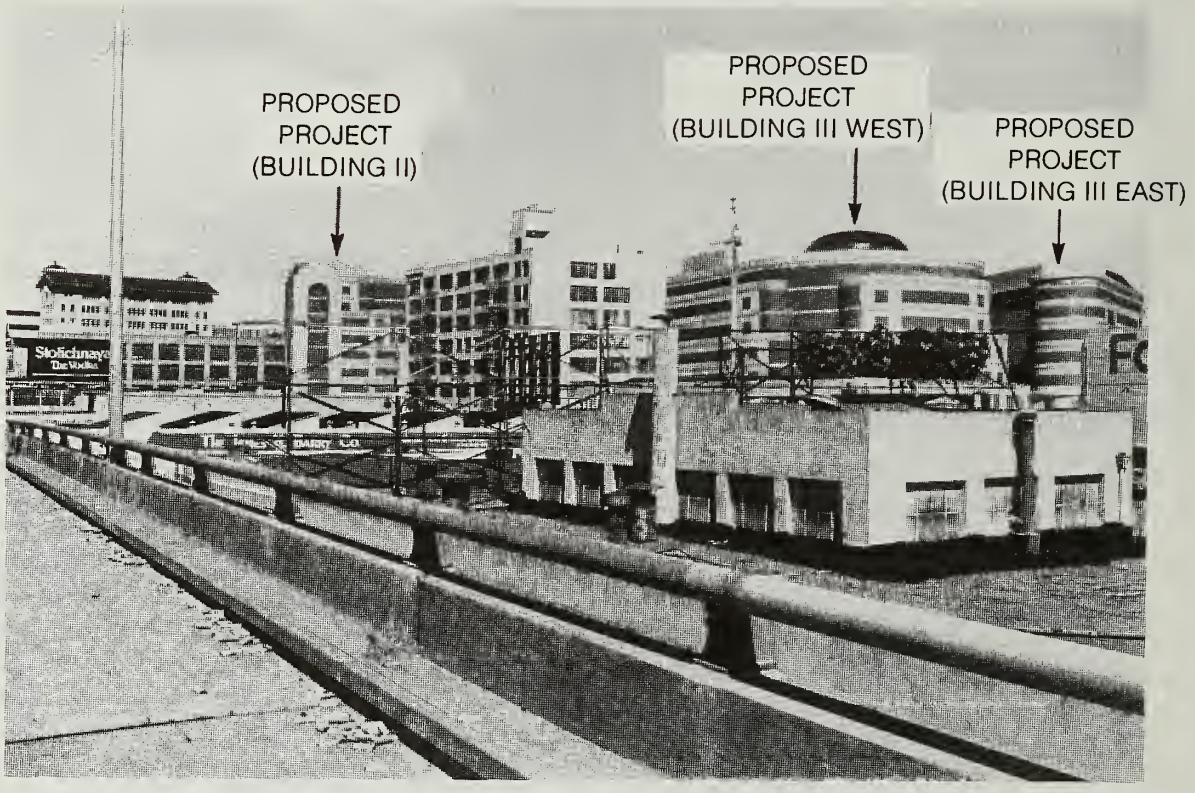
PHOTOMONTAGES OF THE PROJECT LOOKING NORTHWEST ON CENTRAL SKYWAY

FIGURE 25

LOOKING NORTHWEST ON CENTRAL SKYWAY FROM HARRISON STREET



LOOKING NORTHWEST ON CENTRAL SKYWAY FROM MISSION STREET

84053

TABLE 5

RELATIONSHIP BETWEEN APPLICABLE URBAN DESIGN POLICIES
OF THE MASTER PLAN AND THE
PROPOSED PROJECT

URBAN DESIGN PLAN POLICIES	RELATIONSHIP OF THE PROJECT TO POLICIES
Objective 1, Policy 1: "Recognize and protect major views in the City with particular attention to those of open space and water."	All three of the buildings would reach a height of 105 feet. Due to the location of the project in a lower lying area of the City, it would not block any views of the Bay. The project would partially obstruct the view of Bernal Heights seen looking south on Van Ness (see Figure 19). The project would not generally be visible in the skyline since surrounding development to the north is higher.
Objective 1, Policy 3: "Recognize that buildings when seen together produce a total effect that characterizes the city and its districts."	The proposed project, in conjunction with the recent Van Ness Plaza building, and large existing buildings in the immediate project vicinity could cause a change in the perceived character of the South Van Ness area, from an area of predominantly small scale, low-rise, retail, automotive and warehouse uses to an area of large scale, medium-rise office uses, more similar to the Civic Center to the north. The 105-foot height of the two buildings would be 30 to 70 feet higher than the prevailing height of buildings in the project area, except for the Bank of America Computer Center (340 feet), the AAA Building (388 feet), the Masonic Temple (115 feet) and other buildings in the Civic Center area. The project design incorporates a number of features tying it visually to the Civic Center, including rounded building corners and horizontal building elements.

TABLE 5 continued

Objective 1, Policy 7: "Recognize the natural boundaries of districts and promote connections between districts."	In the past, Market Street has served as a boundary between the Civic Center district to the north along Van Ness Avenue, and the South Van Ness area, south of Market Street. The governmental uses existing in older buildings have long acted as a connection between these districts. The proposed project in conjunction with the recently completed Van Ness Plaza building, could provide a type of space in the South Van Ness area which could further connect this area with the Civic Center and could eventually result in the diminished perception of Market Street as a boundary between districts.
Objective 2, Policy 4: "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development."	The proposed project would result in the demolition of the Firestone Tire Shop building, rated "3" in the DCP 1976 Architectural Inventory and preliminarily rated "B" by Heritage.
Objective 2, Policy 6: "Respect the character of older development nearby in the design of new buildings."	The proposed project would exceed in height and bulk the older buildings in the project area. The form of the buildings would differ since the older buildings in the project area are of terra cotta, brick or stucco while the proposed project would be constructed primarily of concrete and glass.

TABLE 5 continued

Objective 3, Policy 1: "Promote harmony in the visual relationships and transitions between new and older buildings."	Since the proposed project would be about three to four times the height of adjacent buildings, it would cause an abrupt change, rather than a gradual transition, with respect to building height. The design is intended to moderate the visual impact of this change by placement of horizontal building elements and setbacks. The project's concrete and glass facade treatment would be different in color and texture from older buildings in the vicinity and similar to the facade materials of the existing Van Ness Plaza building adjacent to the project site and to more recent development in the Civic Center area, such as Davies Hall, Opera Plaza and the new State Office Building. The project's design would be different in character than older buildings, with larger window openings and smoother surfaces. The building's bulk would be greater than most buildings in the vicinity, creating a more uniform streetwall, and sense of urban density which could overwhelm the ground level perspective along Mission Street.
Objective 3, Policy 2: "Avoid extreme contrasts in color, shape and other characteristics which will cause new buildings to stand out in excess of their public importance."	
Objective 3, Policy 5: "Relate the height of buildings to important attributes of the City pattern and to the height and character of existing development."	
Objective 3, Policy 6: "Relate the bulk of buildings to the prevailing scale of development to avoid an overwhelming or dominating appearance in new construction."	

C. ARCHITECTURAL AND HISTORIC RESOURCES

The proposed project would demolish the Firestone Tire Shop building at 140 South Van Ness Avenue rated "3" in the 1976 Architectural Inventory and preliminarily rated "B" by Heritage (see definitions of Heritage ratings on page 39). The other buildings on the project site have not been rated by any sources.

The project is not close to any historic district. The closest historic districts are the Liberty Hill district located at Liberty, Hill and 20th Streets, and the Alamo Square district, near Alamo Square. Demolition of the proposed buildings would not affect any proposed historic district.

The Urban Design Element of the San Francisco Master Plan contains policies and principles which may be used to evaluate the project. Table 6, below, Relationship Between Applicable Architectural/Historic Resource Policies of the Urban Design Element of the Master Plan and the Proposed Project, compares the project to these policies.

TABLE 6

RELATIONSHIP BETWEEN APPLICABLE ARCHITECTURAL/HISTORIC RESOURCE POLICIES OF THE URBAN DESIGN ELEMENT OF THE MASTER PLAN AND THE PROPOSED PROJECT

Objective 2, Policy 4 - "Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development."	The proposed project would demolish three buildings, one of which has been rated "3" in the 1976 Architectural Inventory and preliminarily rated "B" by Heritage in the Outer Downtown Survey.
Objective 2, Policy 6 -- "Respect the character of older development nearby in the design of new buildings."	The proposed project would be taller and bulkier than older development in the immediate project area. It would be similar in scale and design to buildings in the Civic Center area.

D. TRANSPORTATION, CIRCULATION AND PARKING

SITE SPECIFIC ANALYSIS

1. Project Travel Demand

On the basis of land use, the project would generate about 12,736 new person trip-ends (pte) per day.[1,2] Travel generated by existing uses on the project site (Firestone Tire) is minimal and has not been subtracted from the total new travel from the site and net new project travel would therefore be slightly lower than that calculated. (Table 7, page 80, shows calculations for project trip generation.) The trip generation calculations include travel to and from the project site by both visitors and employees of the project. Additionally, although expressed on a person trip-end basis, the trip generation includes all travel to and from the project in autos, service vehicles and trucks, on public transit and other modes (i.e. walking, bicycles, taxis, etc.). Projected outbound (peak commute direction) p.m. peak-period and peak-hour trips by mode expected to be generated by the project are shown in Table 8, page 81. About 1,647 new outbound trips from the project would occur in the p.m. peak-period, of which about 1,021 would occur in the p.m. peak hour.

Assignments to travel modes (including service and delivery vehicles) have been made on the basis of modal splits from the Downtown Plan EIR (EE81.3) for the years 1984 and 2000.[3] The modal splits used were derived from data from the C-3 zoning district. The Van Ness Gateway Center site is outside the C-3 District. However, travel behavior at Van Ness Gateway Center in the future has been assumed to be similar to travel in the C-3 District because of the close proximity of the site to the boundaries of the C-3 District, and because the commercial land uses proposed for Van Ness Gateway Center are similar to C-3 District land uses. Although the proposed project would not be completed in 1984, the 1984 modal split has been used for the purpose of identifying impacts at the single project level (as opposed to impacts at the cumulative level). The year 2000 modal splits have been applied to the project travel demand for the purpose of comparing project travel with cumulative future travel demand on the transportation system serving San Francisco (see Cumulative Travel Demand, page 91).

TABLE 7

NET NEW PROJECT PERSON TRIP GENERATION

Land Use	Daily Trip Rate	Daily Trips	Peak Period Trips (1 hr/2hr)	
			Total	Outbound
431,949 gross sq ft office area	18.1/1,000[1,2]	7,818	805/1,290	765/1,226
32,786 gross sq ft retail area	150/1,000[2,3]	4,918	492/811	256/421
	TOTALS	12,736	1,297/2,101	1,021/1,647

7,818	daily office trips	= 4,456	work trips[4]	+ 3,362	non-work trips	
4,918	daily retail trips	= 197	work trips[4]	+ 4,721	non-work trips	
	TOTALS	4,653	work trips	8,083	non-work trips	

[1]San Francisco Department of City Planning, Guidelines for Environmental Review, September 1983.

[2]Caltrans, Eleventh Progress Report on Trip Ends Generation, pages 167, 168, 171 and 174, July 1976.

[3]Institute of Transportation Engineers, Trip Generation, 1979, not paginated.

[4]Based on the Downtown Plan EIR.

TABLE 8

DISTRIBUTION OF NET NEW PROJECT PERSON TRIPS
OUTBOUND DURING P.M. PEAK PERIOD

Location and Mode	Peak Hour (4:30 - 5:30 p.m.) 1984/2000[1]	Peak Period (4:00 - 6:00 p.m.) 1984/2000[1]
San Francisco		
Auto	147/123	230/199
Muni		
NE	35/35	72/72
NW	78/72	131/115
SW	72/66	139/128
SE	17/17	35/35
BART	23/22	45/42
Walk	238/237	402/402
Other	7/7	16/14
	618/580	1,069/1,009
East Bay		
Auto	65/67	84/81
BART	100/131	152/201
AC	48/41	75/69
Other	2/2	2/2
	215/241	313/354
Peninsula		
Auto	57/54	83/83
BART	24/25	29/31
Samtrans	11/14	18/21
SP	20/24	30/31
Other	3/3	9/9
	116/120	169/176
North Bay		
Auto	29/27	36/36
GGT Bus	32/39	48/58
GGT Ferry	6/8	8/10
Other	4/5	4/5
	73/79	96/109
	1,021/1,021	1,647/1,647

[1]Numbers may not total precisely because of rounding.

SOURCE: Department of City Planning, Office of Environmental Review (OER), Downtown Plan EIR, EE81.3, certified October 18, 1984, on file at OER.

2. Master Plan Policies

The project would respond to Objective 1, Policy 7, of the Transportation Element of the San Francisco Master Plan to "seek means to reduce peak travel demand."[4] As required by Section 163 of the City Planning Code, a member of the building management staff would be designated as a "transportation broker" to coordinate measures that are part of a transportation management program, such as: encouraging a flexible time system for employee working hours (to be developed by project tenants in consultation with the Department of City Planning) to reduce peak-period congestion by a planned spreading of employee arrivals and departures; encouraging transit use through the on-site sale of BART, Muni, and other carriers' passes to employees; and encouraging employee carpool and vanpool systems in cooperation with RIDES for Bay Area Commuters by providing a central clearinghouse for carpool and vanpool information.

3. Transit

a. Local Transit

The location of the project site on Mission Street and South Van Ness close to the intersection of Van Ness Avenue and Market Street, a major transit node, provides access to at least 21 Muni routes within three blocks of the project. Muni Metro service in the Market Street subway is accessible via the Van Ness station. BART service is accessible at either the Civic Center station or the 16th/Mission station four to five blocks away. Photographic examples of p.m. peak-hour loadings on Muni vehicles are shown in Appendix B.

As shown in Table 11, p. 96, Muni operations in the four corridors of San Francisco are currently in Level of Service D and E and BART is shown to be operating currently at Level of Service F Eastbay and in Level of Service D in the Westbay. Table B-1, Appendix B, p. A-28, contains descriptions of the various Levels of Service for bus transit. In the p.m. peak hour, the project would generate about 202 new Muni trips and about 147 new BART trips outbound from the project site. Addition of the project p.m. peak-hour Muni riders to the existing (1984) Muni ridership would increase the loading ratios on Muni in the northeast, northwest, southwest and southeast corridors to 1.17, 1.27, 1.46 and 1.06, respectively, but would not change the Levels of Service. Addition of BART riders from

the project to the existing BART ridership would increase the p.m. peak hour Eastbay loading ratio to 1.54 (Level of Service would remain F); the project's BART riders would not change the Westbay loading ratio of 1.10. Additional riders from the project would not increase the loading ratios or levels of service in AC Transit, Golden Gate Transit, Samtrans or SP Caltrain.

b. Transit Corridor Analysis

The project would contribute to increases in transit ridership in the major transit corridors leading from downtown San Francisco. Existing peak-period and peak-hour transit ridership (see Table 11) would be increased by 0.2% to 0.8%, with the greatest percentage increases from the project riders occurring in the Muni northwest corridor. Ridership increases of this magnitude would not be measurable against the day-to-day fluctuations in transit ridership and would not have a noticeable effect on transit levels of service. Transit impacts caused by cumulative development are discussed in the Cumulative Travel Demand section, pages 95-101.

c. Project Transit Costs

Muni. Cost increases due to increased patronage would be expected for Muni, SamTrans, BART and Golden Gate Transit. The City's general fund provides for a subsidy to the Municipal Railway's operating budget. The subsidy covers the difference between Muni's costs and the revenues that Muni receives from fares and from federal and state governments and represents the cost of Muni to the City. This subsidy amounted to about 10% of total General Fund revenues in the 1984-85 budget. The net marginal cost (or increase in the deficit for Muni operations) per peak-hour ride was $0.50 in 1984. The proposed project would generate about 385 peak-period outbound trips which could generate an annual net marginal cost to Muni of approximately $97,020.[5] The extent to which this marginal cost increase would be met by the general fund allocation to Muni, which would be derived from a variety of taxes levied on the proposed project, is not known. However, it appears that the increase in general fund allocations generated by the proposed project would offset a portion or all of the about $97,020 peak-period marginal costs to Muni. State and federal funds to Muni are decreasing and the City is reviewing other options for increased revenues. The project site is outside of the Transit Impact Development Fee Ordinance area.

BART. It is estimated that 1,529 daily trips on BART would be generated by the proposed project. The deficit per rider for BART was estimated at $1.06 in 1984. Using this rate, the proposed project would generate a deficit of about $408,426.[6] However, additional property tax and sales tax revenues generated by the project for BART would reduce this deficit.

4. Traffic

a. Local Traffic Analysis

Local traffic impacts have been assessed for the intersections of Mission/South Van Ness, Duboce/Mission, and 13th/South Van Ness. 13th/South Van Ness is currently operating at level of service "C," while Mission/South Van Ness is operating at level of service "C". The worst traffic conditions among the intersections analyzed exist at Duboce/Mission which currently operates at level of service "D". This is principally the result of the Highway 101 off-ramp touching down at this intersection, increasing the demand for green time and lengthening the overall signal cycle.

The proposed project would generate about 1,215 daily vehicle trips, 300 p.m. peak-period outbound vehicle trips and 200 p.m. peak-hour outbound vehicle trips. To estimate the change in vehicle trip activity near the site existing vehicle trips were identified. The net change in p.m. peak-hour traffic is 190 vehicles after subtracting traffic from the Firestone Tire Shop and the parking lot (10 vehicle trips).[7] These trips were distributed through the study intersections using the distributions for the year 1984 estimated in the Downtown Plan EIR. The immediate impact of the project traffic on these intersections was calculated to be negligible relative to overall cumulative growth already projected for this area (discussed on page 101).

Vehicle access conditions would change compared to current conditions. All traffic for the development would enter from Mission Street and exit onto Otis and South Van Ness. A mitigation measure has been included restricting vehicles exiting to South Van Ness to right turns only, reducing potential conflicts along South Van Ness where traffic moves heavily throughout the day.

The garage entrance to Building III on Mission, the entrance to Building II on Mission and the exit to Building II on Otis would use Transit Preferential Streets. The exit to Building III is on South Van Ness. Muni recommends no garage access on Transit Preferential Streets.[8] Vehicles turning into Building III garage on Mission street are of greatest concern because buses travel on the right side of Mission Street. This impact would be reduced by the fact that the only movements into the Building II garage would be permitted from Mission Street, with vehicles exiting onto Otis Street. A mitigation measure has been included that would require that off-street queuing areas for one or two vehicles be provided to eliminate the need for on-street queuing. A single entrance and exit lane would be sufficient for garages of this size.

b. Freeway On-Ramp Analysis

Traffic operations at the intersections serving the freeway on-ramp near the project site (13th Street/South Van Ness) is shown in Table 9, below. During the peak hour, the intersection of 13th Street/South Van Ness operates at level of service C. Vehicles from the project would be expected to contribute to the existing condition at this intersection although the project effects would not be sufficient to change the Level of Service during the p.m. peak hour.

TABLE 9

EXISTING AND PROJECTED INTERSECTION PERFORMANCE
P.M. PEAK HOUR

	Volume-to-Capacity Ratios and Levels of Service		
Intersection	Existing[1]	Existing Plus Project	Year 2000
13th/South Van Ness	.71 (C)	.73 (C)	.78 (C)
Mission/South Van Ness	.72 (C)	.74 (C)	.80 (D)
Duboce/Mission	.89 (D)	.90 (E)	.98 (E)

[1]Counts conducted by EIP Corporation and DKS Associates, December 3, 1985.

c. Freeway Corridor Analysis

The project would contribute to increases in traffic on the major freeways serving downtown San Francisco. Traffic generated by the project would increase total traffic on major freeways during the p.m. peak period by about 0.2% to 0.3% and the p.m. peak hour by about 0.1% to 0.2%. Such increases would not be measurable against the day-to-day fluctuations in traffic volumes. Because the Bay Bridge eastbound traffic flow is functionally at capacity, the travel demand from the project would not be expected to increase the flows on the Bay Bridge in the peak hour; rather the East Bay-bound auto traffic from the project would most likely compete with and possibly displace existing users of the Bay Bridge into later portions of the peak period. This competition for access would occur at the on-ramps to the Bay Bridge and any displacement of existing users to later time periods would depend upon the time of arrival of project vehicles at the on-ramps. Freeway impacts caused by cumulative development are also discussed in the Regional Freeway Analysis section, pages 101-103.

5. Parking

The project's parking demand has been calculated on the basis of trip generation and modal split data. Based upon the project's travel patterns, parking demand would be calculated as follows:

- 4,653 daily work trips (office and retail) x 22% auto/1.6 persons per auto[3]/2 one-way trips per auto = 320 long-term parking spaces.
- 8,083 daily non-work trips (office and retail) x 10% auto[2]/1.3 persons per auto[2,3]/2 one-way trips per auto/5.5 turnovers daily[12] = 57 short term parking spaces.

  Total project demand = 377

Project demand (377 parking spaces) plus spaces existing on-site (175) create a parking demand of 552 spaces. The project would provide the equivalent of 244 self-park spaces in an on-site garage leaving an excess demand of 308 spaces.

Valet parking is proposed for the project which would increase parking from 244 self-park spaces to 519 spaces. This would provide 33 spaces less than demand.

City Planning Code[9] would require 894 parking spaces calculated as follows:

o	401,491 occupied sq. ft. office @ 1 space per 500 sq. ft.	= 802.9
o	32,786 occupied sq. ft. retail @ 1 space per 500 sq. ft., plus 1 space per 250 sq. ft. over 20,000 sq. ft.	= 91.1
		894.0

The proposed project would require Conditional Use authorization for a Planned Unit Development (PUD) to provide fewer off-street parking spaces than required. According to City Planning Code,[9] Planned Unit Developments must "Provide off-street parking adequate for the occupancy proposed" (Article 3, section 304.d.2). The project's valet parking (519 spaces) would exceed the estimated parking demand of the project itself (377 spaces) by 142 spaces. In the event that the conditional use for a PUD is not granted, the project sponsor would investigate the possibility of providing required parking spaces on-site or off-site within 800 feet of the project as allowed under Section 159(b) of the City Planning Code. A mitigation measure has been included to this effect.

The proposed project demand would be for 377 spaces. With the removal of the 175-space on-site parking lot and the projected deficiency of on-site parking of about 33 spaces (valet-park), occupancy in off-street parking in the vicinity would increase from 74% to 84%. In the event that all code-required parking is provided, and including the removal of the 175-space on-site parking lot, there would be an excess supply of 342 parking spaces on-site and occupancy in off-street parking garages in the vicinity would drop to 64%.

6. Freight Loading

The project's freight loading needs have been calculated according to City Planning Code.[10] The project's freight loading requirement would be:

					Spaces
o	Building II	office	103,560	gsf	1.0
		retail	4,700	gsf	0.0
					1.0
o	Building III	office	328,389	gsf	2.0
		retail	28,086	gsf	1.0
					3.0

One more off street freight loading space would be provided than required under Section 152 of the City Planning Code. Building II would have one freight loading space entered on Mission Street and exited onto Otis Street. Four freight loading spaces would be provided for Building III, one in the east wing and three in the west wing, and all would be accessible from South Van Ness Avenue. The movement of service vehicles into and out of the four freight loading spaces on South Van Ness Avenue could cause a disruption in traffic flow and transit operations.

City Planning Commission Resolution No. 9286 (January 21, 1982) requires that the City Planning Commission include as a mitigation measure off-street freight loading and service vehicle spaces in a manner complying with the specifications outlined in the document entitled "Off-street Freight Loading and Service Vehicle Space Requirements and Guidelines," January, 1982. This document includes revisions to the City Planning Code regarding both the number and design of loading spaces. Resolution No. 9286 would require a total of five loading spaces in the proposed project. The project would include the five spaces required by Resolution No. 9286, and would meet all design specifications outlined in the Resolution except that it would exceed the 24-foot maximum curb cut by 36 feet and would not include internal manuevering space in Building III which has 4 loading spaces (see Mitigation Measures, pages 140-141).

7. Pedestrian Flows

Pedestrian activity is most intense for office buildings during the midday peak and existing pedestrian activity was greater during noontime so pedestrian conditions for the project were evaluated for this time. The existing and future pedestrian flow rate and the corresponding flow regimen (level of service) for the midday peak are presented in Table 10, page 89. Noon peak hour pedestrian flows on Otis, Mission, and South Van Ness sidewalks all have open pedestrian flow regimes.

The proposed project would generate a noon hour flow of 218 pedestrians on the west side of Mission Street, 909 pedestrians on the east side of Mission Street, 545 pedestrians on South Van Ness Avenue and 145 pedestrians on Otis Street. The total peak hour peak-pedestrian flow generated by the project would be 1,819 pedestrians.

TABLE 10

PEDESTRIAN IMPACTS
MIDDAY PEAK

Location	Pedestrian Flow Rate[1] - Level of Service	
	Existing	Existing plus project
Otis Sidewalk	0.15 - Open	0.64 - Unimpeded
Mission Street - West Sidewalk	0.41 - Open	1.14 - Unimpeded
Mission Street - East Sidewalk	0.20 - Open	2.50 - Impeded
South Van Ness Sidewalk	0.05 - Open	1.43 - Unimpeded

[1]Pedestrian flow rate expressed as pedestrians per foot of sidewalk per minute during the peak 15 minute period.

The proposed project would degrade pedestrian flow regimes on the Mission Street east sidewalk from the existing open level to impeded, and on the Mission Street west sidewalk, Otis Street sidewalk and the South Van Ness sidewalk from the existing open level to unimpeded.

It is expected that a major travel route for pedestrians would be across Mission Street and South Van Ness Avenue, walking between the transit lines on Market and Mission Streets and the project itself. Crossing South Van Ness Avenue within the time currently provided is difficult, especially for the aged or handicapped. One alternative would be to shorten the crossing distance either by widening the medians or bulbing the corners. This latter option is fully discussed in the proposed Van Ness Avenue Plan (page 31). Another alternative would be to change the signal timing to allow more time for pedestrians to cross. This option could have negative impacts, however, on transit and traffic-flow through the intersection. A mitigation measure has been included to minimize potential pedestrian conflicts.

8. Construction Activity

During the construction period, transportation impacts would result from truck movements to and from the site during excavation, and construction activity. Excavation would generate an average of 25 truck movements per day in or out of the project site, between 9:00 a.m. and 3:30 p.m. Construction activities (steel erection and finishing) would generate an average of 15 truck movements per day. Deliveries of materials would occur between 9:00 a.m. and 3:30 p.m. The actual duration of each construction activity has not yet been established.

During the construction period, the sidewalks fronting the project site on Mission, Otis and South Van Ness would be affected, although they would probably not be closed. Lane and sidewalk closures are subject to review and approval by the Department of Public Works.

Temporary parking demand from construction workers' vehicles, and impacts on local intersections from construction worker traffic, would occur in proportion to the number of construction workers who use automobiles.

Construction truck access to the site could be from Mission, Otis or South Van Ness. The impact of construction truck traffic would be a slight lessening of the capacities of access streets and haul routes because of the slower movements and larger turning radii of trucks. Muni runs along Mission and Otis Streets. Lane blockage on Mission Street by queued trucks, if it were to occur, would reduce the capacity of this street and could interfere with the operation of Muni service. A mitigation measure limiting construction truck traffic to non-peak hours has been included in the project (see page 140).

9. Transportation Management

To help achieve long term transportation goals, the project sponsor would initiate a comprehensive transportation system management (TSM) program aimed at reducing the peak-hour effects of project travel pursuant to Section 163 of the City Planning Code (Downtown Plan, effective October 17, 1985). This program would continue for the actual lifetime of the project. The project sponsor would execute an agreement with the Department of City Planning for the provision of on-site transportation brokerage

services and the preparation of a transportation management program to be approved by the Director of Planning and implemented by the provider of transportation brokerage services. The project sponsor would:

- Designate a permanent Transportation Coordinator as part of the building management staff
- Encourage the investigation and implementation of flex-time programs by providing information on the program's advantages, feasibility, etc.
- Develop a parking program giving priority to ride-sharing vehicles
- Sell Muni Fast Passes and other monthly commute passes on-site
- Make transit routes and schedule information available to employees
- Develop and maintain carpool and vanpool matching services.

CUMULATIVE TRAVEL DEMAND

Analysis of the transportation impacts of cumulative development in San Francisco EIRs has been the subject of considerable public discussion. In the past, cumulative analysis has been conducted on the basis of a list of proposed development in the greater downtown area. The Downtown Plan EIR method presents a refinement of the existing transportation analysis process in which projections of employment growth, independent of a list of proposed projects, are used to project future travel.[11]

The travel data presented in the Downtown Plan EIR transportation sections (and in this report) are projections of total demand on the transportation system serving San Francisco. The projections are comprised of three components of travel demand. Two of the components were developed through an intricate travel modeling process for the C-3 District of San Francisco. These first two components of travel demand are C-3 District work (employee journey-to-work) travel and C-3 District non-work (all other) travel. The third component is non-C-3-District travel, which was forecast through an analysis of regional trends adjusted for the effect of development in the C-3 District. Non-C-3 travel is defined as travel that has neither an origin nor a destination in the C-3 District. Thus, non-C-3 travel includes travel to and from other parts of downtown and trips through San Francisco from other parts of the region. Employment projections are not specifically used in the non-C-3 travel analysis.

As discussed in Appendix J of the Downtown Plan EIR, transit service improvements have been assumed to be implemented by the year 2000. The service improvements assumed to occur correspond to the vehicle acquisition portions of the 5-Year Plans for Muni, AC Transit, SamTrans, CalTrain, and Golden Gate transit. In BART, both the vehicle acquisition program and the trackage improvements (Daly City tail track) were assumed to occur. These planned improvements would allow system capacities to keep pace with demand increases over time.

The Downtown Plan EIR transportation analysis also assumes that regional auto use will continue to change over time in response to increasing levels of congestion on the bridges and freeways serving the City. The analysis projects a shift from single-occupant auto use (drive alone) for commuting to ridesharing (carpool, vanpool) and to transit use. The assumptions of continuing shift from auto to transit and ridesharing, most apparent in the 2000 modal splits, are made on the basis of long-term trends in transit use in the San Francisco commute corridors. Census data show that in the period 1970 to 1980, transit use for commuting increased. Similarly, Bay Bridge data show that ridesharing has been increasing over the last seven years. Thus, the shift to transit and ridesharing is well-established in San Francisco commute corridors.

Although the C-3 District transportation modelling process used analytical techniques common to travel forecasting, several portions of the process are unique to the C-3 District. This uniqueness is the result of the development of two major data bases -- an inventory of existing land uses in the district and surveys of employees and employers in the district. The data developed from the surveys and the inventory have been used as the basis for forecasts of development and employment growth in the C-3 District. Sections IV.B., Land Use and Real Estate Development; IV.C., Business and Employment; IV.D., Residence Patterns and Housing; and Appendices G, Land Use and Real Estate Analysis; H, Business and Employment Analysis; and I, Theoretical Discussion of Housing Market Effects/Methodology for Forecasting Residence Patterns, of the Downtown Plan EIR, which contain detailed information about methods used to project future employment in the C-3 District, are incorporated by reference into this report and summarized below and in the Land Use and the Residence Patterns and Housing sections of this EIR.

The cumulative analyses for forecasting future land use, employment, and residence patterns are described in the Downtown Plan EIR. Appendix sections therein describe the methodology, identify the factors considered, and identify the types and sources of data used. A concise description of the major components of the process of developing employment and land use development forecasts is presented in the flow charts in Figure H.1 and Figure G.1. of the Downtown Plan EIR. The factors considered in forecasting residence patterns are identified in the diagram in Figure I.1.

The Downtown Plan EIR approach for forecasting future land use, employment, and residence patterns is based on a conceptual framework of the process of urban economic development. The analytical procedures incorporate a variety of types and sources of data and information concerning past, current, and likely future conditions regarding economic, real estate, demographic, and public-policy factors.[12] The employment forecasts have been used as the basis for the travel demand modeling process. As described above, the C-3 District comprised two of the three components of total travel. Because of the use of the employment projections in the travel demand modeling process, the transportation forecasts for the year 2000 are independent of lists of cumulative development.

Through a complex calibration and validation process of comparing projections of travel demand modeled on the basis of the survey of C-3 District employees to actual travel from measurements made by state, city and regional agencies, work and non-work travel demand from the C-3 District was modeled for the years 1984, 1990 and 2000. The modeling process comprises the following steps:

- Trip generation rates (empirical measures of total travel to and from a specific land use) were applied to employment forecasts by business activity (i.e., different rates were used for various land uses).
- The total travel from the C-3 District was distributed to seven Bay Area zones on the basis of projections of future employee residence patterns and origin-destination patterns for non-work travel.
- Trips to each of the seven regional zones were assigned to travel modes on the basis of modal splits (distribution of travel over the transportation modes, auto, transit, etc.) developed from the C-3 District surveys.

At this stage of the process, the model forecasts total travel from the C-3 District. To complete the process and to allow analysis of the effect of travel demand from non-C-3 development on the transportation network, the non-C-3 travel demand was analyzed. The total travel demand was calculated by summing C-3 District work and non-work travel and non-C-3 travel at sub-regional measuring points (called screenlines) located at or just beyond the San Francisco county line (except for Muni and BART Westbay service which were measured inside San Francisco, outside the downtown). The total travel demand was then compared to available service (capacity) at the screenlines and operating conditions (demand-to-capacity ratios) were analyzed assuming planned improvements. The results of those analyses are summarized later in this section.

For future years, the C-3 travel modeling process was modified to incorporate changes in travel patterns (modal split changes, different travel times), employee residence patterns and changes in land use patterns. The process incorporates the dynamic aspects of changing Bay Area travel patterns, rather than assuming a fixed, unchanging condition over time. An example of past changes in travel patterns can be seen in the amount of carpooling activity on the Bay Bridge. In 1977, peak average vehicle occupancy westbound on the bridge was 1.7 persons per vehicle. By 1983, in response to increasing congestion and increased travel and parking costs, peak average vehicle occupancy westbound increased to 2.1 persons per vehicle.[13]

The non-C-3 travel demand was forecast through the use of growth factors developed on the basis of historic trends in total regional and sub-regional travel.[14] These historic growth rates (factors) have been used to project increases only for non-C-3 District travel at the regional screenlines. No other use of historic growth rates has been made in the transportation analysis. Because of the individual and unique nature of each of the transportation screenlines, each growth rate is based on data for that location. Thus, the growth rates for freeways project growth in auto trips, while the growth rates for transit project growth in ridership.

Each of the historic growth rates inherently contains information about regional growth in travel patterns and thus incorporates not only growth from other parts of San Francisco, but from elsewhere in the region. As an example, the historic growth factor for trips

southbound on US 101 includes travel that crosses the Bay Bridge or the Golden Gate Bridge as well as travel from San Francisco. However, the growth is projected as growth in auto travel and cannot be related directly to growth in employment in San Francisco. It is within the context of non-C-3 growth at the screenlines that travel from Van Ness Gateway Center has been analyzed at the regional cumulative level.

The Downtown Plan EIR travel demand model has refined the trip generation process by incorporating discounting factors that adjust the trip generation rates to give travel to and from the C-3 District as a whole; it does not include trips internal to the C-3 District.

The Downtown Plan EIR analysis has assumed that the modal split would change over time in response to the increasing levels of congestion at the regional screenlines (described in the Downtown Plan EIR). Thus, because the Bay Bridge is at or near capacity in the p.m. peak hour eastbound, the Downtown Plan EIR modal split projects a proportionately lower increase in peak-hour auto demand to the East Bay. Similarly, for AC Transit the Downtown Plan EIR recognizes that current regional transit policy dictates no increases in AC Transit transbay service and thus, the ability of AC Transit to carry additional riders transbay will be restricted in the future. Use of this changing modal split is a refinement that allows the travel model to more accurately forecast travel demand and thus, the Downtown Plan EIR results represent a more accurate level of projection than has been possible using methods and data available to date.

The Downtown Plan EIR and the Consultant's Report on Downtown Growth Management Alternatives (Environmental Science Associates, 1983) contain extensive discussions of the analyses and data used to forecast employment, land use (see Sections cited above) and transportation demand (see Section IV.E and Appendix J of those reports).

1. Transit

The transit agencies serving downtown San Francisco carry approximately 60% of the peak-period employee work travel, as well as about 20% of the peak-period other travel. P.M. peak-hour and peak-period loadings on the local and regional transit routes were found to be near capacity for some of the routes in 1984 (see Table 11, page 96). The values shown in Table 11 are sums over the peak hour and the two-hour peak period.

TABLE 11

OUTBOUND REGIONAL TRANSIT DEMAND AND SERVICE LEVELS

PEAK HOUR

Transit Agency	1984 Volume	1984 P/S[1]	DOWNTOWN PLAN 1990 Demand	1990 P/S	1990 LOS[2]	2000 P/S	2000 LOS	Project Percent[3]
Muni								
Northeast	7,100	1.16	7,900	1.13	D	1.05	D	0.4
Northwest	8,200	1.26	9,200	1.26	E	1.25	D	0.7
Southwest	13,500	1.45	15,100	1.44	E	1.42	E	0.4
Southeast	5.300	1.06	6,200	1.03	D	1.01	D	0.2
BART								
East Bay	16,100	1.53	20,500	1.42	E	1.42	E	0.5
West Bay	7,700	1.10	8,800	1.26	D	1.06	D	0.5
AC Transit	9,100	0.94	10,500	1.08	D	1.08	D	0.4
GGT Bus	5,300	1.00	6,600	0.86	C	0.91	C	0.5
GGT Ferry	800	0.57	1,100	0.28	A	0.38	A	0.4
Tiburon Ferry	200	0.40	200	0.40	A	0.60	B	--[4]
SamTrans	1,900	1.12	2,400	1.20	D	1.19	D	0.4
CalTrain (SPRR)	3,100	0.61	4,000	0.65	B	0.79	C	0.5
PEAK PERIOD								
Muni								
Northeast	12,600	1.06	13,900	1.01	D	0.95	C	0.5
Northwest	13,100	1.13	14,100	1.07	D	1.05	D	0.8
Southwest	23,300	1.31	26,000	1.29	E	1.29	E	0.5
Southeast	9,100	1.00	10,300	0.95	C	0.88	C	0.3
BART								
East Bay	25,800	1.54	32,600	1.42	E	1.40	E	0.5
West Bay	11,300	0.80	12,800	0.91	C	0.77	C	0.5
AC Transit	14,000	0.95	17,000	1.16	D	1.16	D	0.4
GGT Bus	7,600	0.90	9,500	0.77	C	0.81	C	0.5
GGT Ferry	1,000	0.56	1,400	0.27	A	0.33	A	0.5
Tiburon Ferry	300	0.60	400	0.80	C	1.00	C	--[4]
SamTrans	2,900	1.12	3,400	1.13	D	1.15	D	0.6
CalTrain (SPRR)	4,500	0.68	5,200	0.64	B	0.77	C	0.5

[1] Passengers per Seat is the ratio of total demand to seated capacity.

[2] Level of Service is scale ranging from A to F that relates P/S ratios to passenger loading conditions on transit vehicles.

[3] The percent of demand generated by the project.

[4] ---: Less than .05 percent.

SOURCE: Environmental Science Associates, Inc.; EIP Associates.

Within the peak hour, there would be periods of time when the loading ratios would be higher than those shown for the hour (peak-of-the-peak conditions). Individual transit vehicle loadings vary on a day-to-day basis because of fluctuations in ridership (demand) and because of variations in operating conditions caused by traffic congestion, equipment availability, and/or system breakdowns. Photographic examples of p.m. peak-hour loadings on Muni vehicles are shown in Appendix B, pages A-29 to A-31).

The 1981/82 transit ridership and loading data used in the Downtown Plan EIR analysis are summations of actual counts of individual transit lines for that period in time.

Calculations are made on the basis of observed operating conditions, as opposed to scheduled operations. Muni supplied the data for the Downtown Plan EIR analysis from its ongoing program of ridership checks. (The data supplied and collected for each transit agency are in the supporting documentation for the Downtown Plan EIR, on file with the Office of Environmental Review, 450 McAllister St., San Francisco, CA.) Muni was involved in the process of verifying the transportation analysis for the Downtown Plan EIR and as a result of that process, approved of the use of Muni data and the projections derived from that data.

The Level of Service concept, similar to that developed for highway operations, has been applied to both bus transit and rail transit. Passengers per seat (i.e., total passengers divided by the number of seats) has been used as the measure of effectiveness to define the various level of service ranges. Table B-3, Appendix B, shows the relationship between Level of Service and passengers-per-seat (p/s) ratios for bus transit systems.

Passengers-per-seat ratios are only one measure of adequacy of service. The constraints of operating on heavily used streets in and around the downtown cause transit-vehicle bunching, loss of running time and missed schedules, all of which reduce service, reliability, and ultimately, capacity. In some respects, this would not be evident from simple quantitative analysis. The data in Table 11, page 96, is taken from observed operations, not scheduled service, which inherently incorporates the reductions in capacity from operational considerations. In addition to these inefficiencies inherent within the transportation system, there are other factors which would affect overall

transit capacities. These include variability in daily and seasonal ridership for which an absolute capacity must be available, as well as transit riders who remain uncounted because their transit trips both start and end within the screenlines used in this analysis. Daily fluctuations in fleet availability also affect system capacity.

Further, policy considerations dictate minimum operating conditions on certain lines; minimum headways that have been established to maintain transit access to areas served by those lines are not warranted on the basis of ridership alone. When averaged together, the ridership data from these lines may slightly distort overall ridership conditions.

During the p.m. peak hour in 1984, all of the transit agencies were found to be operating in Level of Service D or better, with the exception of BART Transbay where conditions were found to be at Level of Service F, and Muni in the Northwest and Southwest corridors, where operations were found to be in Level E. Although BART is a rail transit service, its cars have a unique seating configuration. The ratio of total capacity to seated capacity for a BART car (about 1.5) is equivalent to the ratio for bus transit; thus the bus transit Level of Service scale is applicable to BART. Level of Service F ("crush" or "jammed" loadings) on BART is in the range of 1.5 to 1.8 passengers per seat. Because BART operates on a centrally controlled system, the "crush" loadings would not increase passenger loading times (which causes deterioration of service) as would be the case on a bus transit system rather, the effects of "crush" loadings on BART would be reflected in increased passenger discomfort.

The rail transit Level of Service scale is based on typical lightrail transit systems for which total capacity is about 21.0 to 2.2 times seated capacity. The rail transit Level of Service scale would be applicable to Muni Metro, which provides about 50% of the seated capacity to the Southwest corridor. Because Metro vehicles can accommodate higher loadings (a ratio of 2.0 passengers per seat) than buses or trolleys (a 1.5 ratio), the Level of Service would be somewhat better than shown in Table 11. An exact estimate of Metro loadings is not possible without analysis of the Metro service separate from the remainder of Muni service to the Southwest; such analysis would be beyond the ability of the travel demand analysis to predict accurately over time, as discussed in the following paragraphs.

With regard to the Muni data presented in Table 11 the Muni routes have been aggregated on a corridor basis and thus include two-directional travel on some routes that serve the Northeast and Southeast corridors. The Muni numbers cannot be added over the corridors to get a total for the system. Neither can capacity be shifted from one corridor to another. For instance, capacity in the Northeast corridor depends, in large part, on capacity that serves the Southeast portion of the City. The 15, 19, 30X, 30AX, 30BX, 32, and 47 lines pass through the downtown in two directions. Service on the above lines is interdependent. Thus, increases or decreases in capacity on one of the above lines directly affect service in the opposite direction. Service to the Northeast and Northwest corridors is also interconnected, as lines serving the Northwest must pass through the Northeast corridor and, thus, serve both areas. Muni ridership and capacity have been apportioned between both areas.

P.M. peak-period conditions on transit in 1984 are equivalent to or better than peak-hour conditions. In some cases, where demand remains at peak-hour levels during the two-hour period, the passengers-per-seat ratios in the two-hour period are higher than in the one-hour period. This anomaly is the result of transit agencies providing express (or additional) service during the peak hour, but not during the entire peak period. An example of this type of operation may be seen on BART, where three extra trains operate in transbay service in the peak hour but not in the rest of the peak period. Another factor involved is the distribution of demand (ridership) at uniformly high levels over the peak period.

Both transit demand and capacity have been assumed to increase during the period 1984 to 2000. The discussions of transit capacity increases for the agencies are based on the Five-Year Plans and Capital Improvement Plans of the various transit agencies; they appear in Appendix J of the Downtown Plan EIR, pages J.25-J.26. This material, which is discussed below and summarized in Table 11, is incorporated by reference. The future capacities were developed by applying percentage increases, expected in the future, to observed existing capacity. Thus, to the extent that the existing conditions contain (through the use of observed operations) inherent capacity reduction for missed runs, the future capacity projections have taken into account the inability of the transit systems to provide 100% of scheduled capacity. As noted above, the Muni analysis calculates

capacity on the basis of all runs leaving the C-3 District in the p.m. peak. For all of the transit analyses, only peak-direction vehicles are counted.

Future transit demand and loadings for the Downtown Plan in the year 2000 are shown in Table 11 for both the peak hour and the peak period. The transit demand from the project would range between 0.2% and 0.7% of the total peak-hour travel demand on the individual transit carriers in the year 2000.

Peak-hour transit demand on Muni in the year 2000 would increase about 25% over 1984 levels in the Northeast, Northwest and Southwest corridors. Muni demand in the Southeast corridor would increase about 40% between 1984 and 2000. Peak-hour demand on the other agencies would increase between 30% and 70% between 1984 and 2000.

Peak-period increases in demand would be between 15% and 70% from 1984 to 2000. Overall peak-period transit travel would be expected to increase about 30% between 1984 and 2000. Peak period demand generated by the project would range from 0.3 to 0.8% of the total peak period travel demand. Peak-hour and peak-period passenger loadings would be worse than in 1984, although most systems would operate in acceptable conditions (Level of Service D or better). However, BART Transbay and Muni to the Southwest would be in Level of Service E during the peak hour and the peak period.

It is important to note that the Five-Year Plan improvements for the transit systems are designed both to provide for future demand increases, and to improve service levels from existing conditions. For new vehicles to expand system capacity rather than represent replacement on a one-to-one basis, operating revenues would similarly need to be increased. During the year 2000 peak hour, Muni service to the Southwest and BART service Transbay would exceed the desirable passengers per seat ratios of 1.25 and 1.50, respectively.[15] Although the transit demand in the two corridors in excess of the desirable loadings would be able to be accommodated under crowded conditions and thus would not be excess demand; (that is, not beyond capacity), demand in excess of the desirable loadings would mean that additional transit service over that assumed to occur by 2000 would need to be provided to allow transit operations in the two corridors to meet the goals set by Muni and BART. To meet the goal of 1.25 passengers per seat in the peak

hour, Muni would have to increase service by about 14% in the Southwest corridor over the amount of service assumed to occur in 2000.

If transit service were not increased beyond the amounts assumed to occur by the year 2000 in the Downtown Plan EIR, transit operations (in terms of passenger comfort) would be slightly better than 1984 conditions. Peak-hour and peak-period passengers-per-seat ratios would be lower than 1984 ratios even though service (in some corridors) has been assumed to increase as much as 80% between 1984 and 2000.

If the Downtown Plan's goals regarding increased transit use were achieved, and the proposals in the Plan regarding transit service improvements were to be fully developed and in place, the impacts on transit agencies would be less than described above. If the goals were achieved, transit agencies would experience greater levels of demand than under this analysis but overall passenger loadings would be lower (and within desirable levels) because of increased transit service availability that would come about if the proposals stated in the Plan are developed.

2. Traffic

a. Localized Cumulative Development

The localized aspects of cumulative development on street and intersections immediately adjacent to the project site were prepared using underlying traffic growth factors representing "worst case" scenario. It is estimated that in the City's south of Market area, west of Sixth Street traffic volumes would grow 8 percent by 1990 and 10 percent by the year 2000.[16] These growth factors include traffic generated by the proposed project plus traffic generated by cumulative development in the surrounding area. Table 9, page 85, shows the levels of service and demand-to-capacity ratios at the intersections analyzed in the site vicinity as they currently exist, and estimated for the years 1990 and 2000. Levels of service do degrade from their existing conditions and peak conditions would tend to deteriorate by year 2000.

b. Regional Freeway Analysis

Analysis of traffic conditions at the regional screenlines has been conducted for both the p.m. peak hour and the two-hour p.m. peak period. A.m. peak traffic conditions at

regional screenlines have the effect of metering the amount of traffic that reaches the downtown from outside of the City. This analysis has considered p.m. peak conditions. P.m. conditions are usually most severe on freeways and streets within San Francisco, whereas a.m. peak conditions are most severe at locations outside the City.

Traffic demands at the regional screenlines in 1984 (see Table 12, page 103) during the p.m. peak hour were found to use between 90% and 100% of the available capacity on the freeways and bridges. Although the eastbound capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour demand shown in Table 12 represents the effective eastbound capacity. The volume figures shown in Table 12 for 1984 for the one-hour and two-hour periods are averages of several days; thus, values for individual days may be different than the average.

Peak-hour freeway operating conditions in 1984 were found to be generally in Level of Service D to E conditions, which would indicate unstable flows in the 35 mph to 45 mph range. Table B-4, Appendix B, shows the Level of Service for freeway operations. Peak-of-the-peak conditions within the peak hour were found to be worse than the hourly conditions because of surges in traffic demand during the peak hour. Conditions during the peak-period at the screenlines would be similar to those experienced during the peak-hour.

As shown in Table 12, demand during the peak hour in the East Bay and Peninsula corridors would be expected to increase about 15% between 1984 and 2000. Peak-hour demand in the North Bay corridor would increase by about six percent between 1984 and 2000. The project travel demand, about 75 p.m. peak-hour and 115 peak-period outbound regional vehicle trip-ends would represent about 0.2% of the total demand in each corridor in the year 2000. Both the East Bay and Peninsula corridors would have excess peak-hour demand that would not be met during the peak period.[17] The North Bay corridor would have excess demand in the peak period. Excess auto demand would result in either a spreading of the demand into the hours adjacent to the peak period or in increased transit and ridesharing use should additional transit service (beyond that assumed to occur by the year 2000) or ridesharing incentives be provided.

TABLE 12

OUTBOUND REGIONAL AUTO DEMAND

Regional Auto Corridor	1984 Capacity[1]	1984 Volume[2]	DOWNTOWN PLAN (2000) Demand	DOWNTOWN PLAN (2000) Project Percent
Peak Hour				
Bay Bridge (I-80)	9,000	8,540	9,790	0.3
Golden Gate Bridge (U.S. 101)	7,200	6,740	7,150	0.3
U.S. 101 (south of Harney Way)	8,000	7,390	8,400	0.2
I-280 (between Alemany Blvd. and San Jose Avenue)	8,000	7,610	8,650	0.2
Peak Period				
Bay Bridge (I-80)	18,000	17,880	19,330	0.2
Golden Gate Bridge (U.S. 101)	14,400	13,870	14,850	0.2
U.S. 101 (south of Harney Way)	16,000	14,200	16,530	0.1
I-280 (between Alemany Blvd. and San Jose Avenue)	16,000	13,620	15,890	0.2

[1]Although the capacity of the Bay Bridge is calculated to be 9,000 vehicles per hour (vph), the 1984 peak-hour volume shown above represents the effective capacity.

[2]The volumes for 1984 for the one-hour and two-hour periods are averages of several days and, thus, values for individual days may be different than the average.

SOURCE: Environmental Science Associates, Inc.; EIP Associates.

Operating conditions at the regional screenlines would be at or near capacity in Level of Service E. Traffic flow conditions would be expected to be very unstable and could experience temporary flow interruptions throughout the peak period. Peak-of-the-peak conditions would be prevalent during the peak hour and might extend into the peak period. The overall two-hour commute period would not be expected to increase substantially in the future. Rather, the occurrence of peak-of-the-peak conditions, now less than one hour, would most likely expand to fill the one-hour peak.

3. Parking

The estimated parking demand (both long-term and short-term) from the C-3 District in 1984 was found to be about 45,300 spaces, which would occupy about 94% of the 48,000 parking spaces in and near the C-3 District.[18] The short-term parking demand, while representing about 25% of the equivalent daily demand, is about 65% of the daily vehicle travel. Although the equivalent daily demand would leave about 10% of the parking supply vacant, surges in short-term demand (more travel in one period than in another period) can cause temporary localized overloads of parking facilities within various portions of the downtown, even though parking may be available elsewhere in the downtown.

The C-3 District would generate demand for approximately 58,000 equivalent daily parking spaces in the year 2000 under the Downtown Plan, an increase of 28% from 1984. Short-term demand would continue to represent about 25% of the total demand. The project parking demand would represent about 0.3% of the total demand from the C-3 District. The parking supply has been assumed to be about 51,000 spaces. There would be a parking deficit of about 7,000 spaces in the year 2000 if vehicular demand occurs as projected. However, as shown in Table 13, the analysis for the year 2000 forecasts excess auto demand in the peak hour and the peak period. If the excess demand is accommodated on transit or ridesharing, then the overall parking demand would decrease from the above estimate by about 2,300 spaces. If the goals of the Downtown Plan are met, total parking demand in the year 2000 would be about 48,100 equivalent daily spaces, an increase of six percent over 1984. If the goals were achieved, there would not be a parking deficit.

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[1]San Francisco Department of City Planning, Guidelines for Environmental Review: Transportation Impacts, September 1983.

[2]Caltrans, Tenth Progress Report on Trip Ends Generation, July 1975.

[3]San Francisco Department of City Planning, Office of Environmental Review, Final Environmental Impact Report for The Downtown Plan, EE81.3, certified October 18, 1984. This document is an analysis of projected growth in the C-3 District to the year 2000 under the Downtown Plan and five alternatives. The transportation analysis in the EIR includes projections of future modal splits for work and other (non-work) travel for the p.m. peak period, p.m. peak hour and daily time periods. This three-volume document is on file and available for public review at the Department of City Planning, 450 McAllister Street.

[4]San Francisco Department of City Planning, January 1983, Transportation, an Element of the Master Plan.

[5]According to Bruce Bernhard, Muni Chief Accountant, telephone conversations, October 11, 1984.

The deficit due to the project would be 770 peak period Muni trips per day x 252 working days per year x $0.50 deficit per ride = $97,020. The total annual Muni trips were derived using the 24-hour trips methodology specified in the Guidelines for Environmental Impact Review: Transportation Impacts, Department of City Planning, September 1983.

[6]Ward Belding, Supervisor of Office of Research, Bay Area Rapid Transit District, telephone conversation, May 1984.

The deficit due to the project would be 1,529 daily BART trips generated by the project x 252 working days per year x $1.06 deficit per rider = $408,426.

[7]EIP Associates p.m. peak hour survey found a total of 10 vehicle trips in and out of Firestone Garage. Surveyed December 4, 1985.

[8]Peter Straus, Muni Planning Division, telephone conversation, August 20, 1985.

[9]City and County of San Francisco, City Planning Code, 1979, Section 151, Table 4.

[10]San Francisco Department of City Planning, Downtown Plan, Ordinance 414-85, Effective October 17, 1985.

[11]The Downtown Plan EIR contains about 50 pages of text devoted to the description of transportation impacts in the greater downtown area, as well as an additional 30 pages of text describing transportation mitigation measures. The information in this EIR is not intended to be a comprehensive summary of the transportation analysis in the Downtown Plan EIR, but summarizes portions relevant to the proposed project and its contribution to cumulative impacts. For details and assumptions used to arrive at the data and results presented in the Downtown Plan EIR, see Sections IV.E, Transportation Setting and Impact, and V.E, Transportation Mitigation, of the Downtown Plan EIR, which are incorporated by reference into this report and summarized in the text as appropriate.

[12]The Downtown Plan EIR contains extensive discussion of the methods and results used to forecast future C-3 District land use and employment. Sections IV.B, Land Use and Real Estate Development; IV.C, Business and Employment; IV.D, Residence Patterns and Housing; and Appendices G, Land Use and Real Estate Analysis; H, Business and Employment Analysis; and I, Theoretical Discussion of Housing Market Effects/Methodology for Forecasting Residence Patterns, of the Downtown Plan EIR, which contain detailed information about methods used to forecast future employment in the C-3 District, are incorporated by reference into this report and summarized in the text as appropriate. The employment forecasts in the Downtown Plan EIR for the year 2000 exceed the employment projected using the current list-based cumulative analysis, as the list cannot take into account projects not yet proposed.

[13]Metropolitan Transportation Commission, Traffic Survey Series A-48 and MA-60, Spring 1977 and Spring 1983.

[14]The analysis of historic trends in travel patterns is from the following sources: Metropolitan Transportation Commission, Travel Observations of the Bay Bridge

Corridor, October 21, 1981; Homburger and Dock, Trends in Traffic Patterns at the Bay Bridge and Caldecott Tunnel, U.S. Department of Transportation, DOT-BIP-WP-32-3-77, July 1977; telephone survey of 500 drivers conducted in April 1980 by Golden Gate Transit, data supplied by Alan Zahradnik, Transportation Planner, on February 16, 1983; Office of the Auditor-Comptroller, Comparative Record of Traffic for the Month of November, May 27, 1937 through November 30, 1982, Golden Gate Bridge, Highway and Transportation District; San Francisco Municipal Railway Planning Division, Projections of Future Muni Demand and Vehicle Requirements, October 1982; San Mateo County Transit District, SamTrans Five-Year Transportation Development Plan: 1983-1988, April 1983; California Department of Transportation, CalTrain Caltrans/Southern Pacific Peninsula Train Service Five-Year Plan 1983-1988, July 1983; and traffic volume counts from Department of Public Works, Bureau of Engineering, Division of Traffic Engineering and from 1983 San Francisco Cordon Count, JHK and Associates, July 1983.

[15]San Francisco Municipal Railway, Short-Range Transit Plan 1983-1988, July 1983. Bay Area Rapid Transit District, Short Range Transit Plan for the Five-Year Period July 1983 Through June 1988, August 1983.

[16]Underlying growth factors were derived from background reports for the Downtown Plan EIR and assume a lower degree of mitigation for Downtown Plan goals. Achievement of Downtown Plan goals would greatly reduce these impacts.

[17]Table IV.E.4, p. IV.E.36, of the Downtown Plan EIR contains a discussion of the implications of excess demand at the regional screenlines.

[18]The parking survey data and other supporting calculations and data used in the Downtown Plan EIR transportation impact analysis are on file and available for public review at the Office of Environmental Review, Department of City Planning, 450 McAllister Street.

E. AIR QUALITY

Upon completion, the project would affect air quality in two ways. Emissions would be generated by project-related traffic, and by combustion of natural gas for building space and water heating. Transportation sources would account for over 95% of project-related emissions.

Table 13, page 108, shows projected daily emissions of pollutants in 2000 from project-generated traffic, projected daily emissions in 2000 for the greater downtown and other development projected by the Downtown Plan EIR (EE81.3, certified October 18, 1984), and total emissions projected for the entire Bay Area by the 1982 Bay Area Air Quality Plan. The project would contribute about 3.3 percent to the total emissions generated by Downtown Plan development, in 2000.[1]

Nitrogen oxides (NOx) and hydrocarbons (HC) are both chemical precursors of ozone. Motor vehicles emit more NOx than HC, and the emissions from building natural gas combustion would consist primarily of NOx. As demonstrated by the LIRAQ (Livermore Regional Air Quality model) regional ozone computer simulations conducted for the 1982 Bay Area Air Quality Plan, an increase in the future NOx emissions compared to HC emissions would lead to a decrease in ozone compared to present levels. This model has shown that Bay Area ozone concentrations are expected to be within the federal standard in 1987, and thereafter. As future NOx emissions from cumulative development in San Francisco would exceed future HC emissions, this development would not lead to an increase in total Bay Area ozone concentrations.

At the same time, total emissions of both NOx and HC are expected to decrease in San Francisco. Total NOx emissions would decrease in San Francisco by about two percent from 1984 to 2000, but would increase in the Bay Area by about five percent from 1984 to 2000. It is possible that excess NOx emissions generated by cumulative development (including the project) could increase ozone and/or nitrogenous oxidant concentrations further downwind, outside the Bay Area. In addition, NOx emissions generated by cumulative development (including the project) throughout the Bay Area could increase acid rain further downwind, outside the Bay Area, to a relatively small extent due to the magnitude of the increase and to dilution over time and distance.

TABLE 13

PROJECTED DAILY POLLUTANT EMISSIONS

Pollutant	Emissions (tons per day)[1] Project 2000[2]	Downtown Plan[3] 2000	Bay Area[4] 2000
Hydrocarbons	.02	0.6	428
Nitrogen Oxides	.03	0.8	610
Carbon Monoxide	.26	6.6	1,883
Particulates	.04	1.3	649
Sulfur Oxides	.0036	0.1	233

[1]Project, and Downtown Plan emissions calculated using BAAQMD, vehicular emission factors. Emissions of HC, NOx, and CO include an assumed six minutes of idling time per vehicle trip. Emissions of TSP include dust distributed from roadway surfaces.

[2]Based upon a weighted daily average of 15,635 miles traveled.

[3]Incremental emissions of C-3 District development, per the Downtown Plan EIR, Vol. 1, Table IV.1.2, p. IV.I.12.

[4]Cumulative total emissions of Bay Area development, per ABAG, BAAQMD, MTC, 1982 Bay Area Air Quality Plan, pp. 42, 53, and 112.

SOURCE: EIP Associates and the Downtown Plan EIR.

In 1990 and 2000 (according to the Downtown Plan EIR), area-wide traffic volumes in the greater downtown area would increase by about 8% and 15%, respectively, over 1984 volumes; average traffic speeds would decrease by about one mph and two mph, respectively, from 1984 speeds. However, in 1990 and 2000 the average vehicle is expected to emit 32% and 43% less carbon monoxide (CO), respectively, than in 1984 due to ongoing state and federal emissions controls.

CO concentrations at 11 representative intersections in the downtown study area, as analyzed in the Downtown Plan EIR, would decrease from 1984 to 1990 and, thereafter, to 2000. CO concentrations at 10 of the 11 intersections would be within the state and federal standards in 1990 and 2000 under the Downtown Plan. CO concentrations at one intersection (Brannan and Sixth Streets) would continue to violate the state and federal eight-hour standards both in 1990 and 2000 under the Downtown Plan. This suggests that additional intersections not selected for analysis in the Downtown Plan EIR might also exceed air quality standards.

Curbside CO concentrations at selected intersections that would be affected by project-generated traffic and by cumulative development traffic were projected for conservative conditions, and are compared with ambient standards in Table 14, page 110. These projections were calculated using a revised version of the Modified Linear Rollback (MLR) method which was developed for the Downtown Plan EIR.

Table 14 shows violations of the state and federal CO standard of 9 ppm at all three of the intersections studied under 1984 conditions. These violations are due to the high traffic volumes traveling through these intersections and, for South Van Ness/13th and Mission/Duboce, the presence of the elevated freeway. In 2000 the violation at South Van Ness/Mission would be eliminated as a result of ongoing state and federal emissions controls which are gradually reducing motor vehicle emissions as older cars are replaced with new, cleaner burning, vehicles. However, the standard would continue to be violated in 2000 at Mission/Duboce and equalled (not technically a violation) at South Van Ness/13th.

TABLE 14

EXISTING AND PROJECTED CURBSIDE CARBON MONOXIDE CONCENTRATIONS AT SELECTED INTERSECTIONS

Intersection	Averaging Time	Concentrations (ppm)[1] 1984	Downtown Plan[2] 2000
S. Van Ness/Mission	1-hour	16.4	11.3
	8-hour	12.9	8.7
S. Van Ness/13th	1-hour	18.6	13.0
	8-hour	14.1	9.0
Mission/Duboce	1-hour	18.7	12.9
	8-hour	15.0	9.5

[1] Calculations for all scenarios were made using a revised version of the Modified Linear Rollback (MLR) method described in the Downtown Plan EIR. Background concentrations were calculated to be 7.4 ppm for one hour and 5.7 ppm for eight hours in 1984, 6.0 ppm for one hour and 4.5 ppm for eight hours in 1990, and 5.7 ppm for one hour and 4.1 ppm for eight hours in 2000. Underlined values are in violation of the state or federal CO standards. The one-hour state standard is 20 ppm, the one-hour federal standard is 35 ppm, and the eight-hour state and federal standards are 9 ppm.

[2] Based on the economic forecast methodology contained in the Downtown Plan EIR, Volume 3, Table IV.I.3, p. C&R-I.8.

SOURCE: EIP Associates and the Downtown Plan EIR.

The California Legislature has mandated a biannual inspection and maintenance (I/M) program which applies to most cars and light trucks in California. This program went into operation in March 1984. Vehicles covered by the legislation must undergo a check consisting of a visual inspection of the vehicle's emission control system, measurement of tailpipe emissions while the vehicle is idling and comparison of the measured emissions rates to the allowable limits for the appropriate year of manufacture and model of vehicle. Vehicles must have the required emission control equipment and must meet the specified standards for hydrocarbons and carbon monoxide. If required emissions control equipment is not present it must be installed. If all required equipment is in place but the vehicle's emissions exceed the standards, the owner must pay a maximum of $50 for service intended to result in compliance.

An annual I/M program was evaluated in the 1982 Bay Area Air Quality Plan based on the 1979 source inventory. Based on predicted reduction in hydrocarbons and CO of 25% in vehicles covered, a reduction in total motor vehicle-generated CO of about 18% would be expected. The reduction in total regional CO emissions would be about 16%. The reduction in motor vehicle-generated hydrocarbons would be about 17%; the reduction in total regional hydrocarbon emissions would be about 6%.

As CO concentrations in downtown San Francisco are almost entirely due to motor vehicles, future CO levels are predicted to be lower than they would be without an I/M program. Thus, actual concentrations are expected to be lower than CO concentrations shown in Table 14 and CO and HC emissions shown in Table 13, because the Downtown Plan EIR did not take the I/M Program into account.

Emissions of total suspended particulates (TSP) resulting from construction and from vehicle trips generated by the project and cumulative development would increase TSP concentrations, which could increase the frequency of TSP standard violations in San Francisco, with concomitant health effects and reduced visibility.[2]

Emissions of sulfur oxides (SOx) generated by the project and by cumulative development would not bring San Francisco's sulfur dioxide (SO_2) concentrations measurably closer to violating the standard.

The 1982 Bay Area Air Quality Plan contains strategies which consist primarily of HC and CO emission controls on stationary sources and motor vehicles, and transportation improvements, and are aimed at attaining the federal ozone and CO standards. As discussed above, emissions associated with the project and with cumulative development under the Downtown Plan are not projected by this EIR or the Downtown Plan EIR to increase ozone concentrations, and thus would not conflict with the objectives of the 1982 Bay Area Air Quality Plan regarding ozone. Cumulative greater downtown development is projected by the Downtown Plan EIR potentially to result in a violation of the eight-hour CO standard at the Brannan/Sixth intersection as analyzed therein. The model used to make the CO projections may not be accurate to within the percentages of the excesses. Therefore, until additional "hotspot" monitoring is performed to validate the model projections, a determination of whether cumulative greater downtown development would conflict with objectives of the 1982 Bay Area Air Quality Plan regarding CO cannot be made.

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[1] Impacts anticipated from cumulative downtown development have been analyzed in the Downtown Plan Environmental Impact Report (EIR), EE81.3, certified October 18, 1984. The air quality setting and impacts discussion in the Downtown Plan EIR (Vol. 1, pp. IV.I.1-19; Vol. 2, pp. 0.1-9; Vol. 3, Part 1, pp. C&R-I.1-11) is summarized in the text of this EIR and incorporated by reference herein.

[2] State particulate standards were changed in 1983 to concentrate on fine particulate matter which has been demonstrated to have health implications when inhaled. Until the State adopts a method for monitoring fine particulate matter, it is not possible to determine what proportion of TSP in San Francisco would be subject to review against the new standards, whether new standards would be violated, or what the health implications would be.

F. ENERGY

Pacific Gas and Electric Company supplies energy to San Francisco customers. Electrical energy is generated from various sources of energy including oil, gas, hydroelectric, geothermal, nuclear, wind, cogeneration and solid waste.[1] In future years PG&E expects to generate electricity from these sources and from coal. The proportion of energy generated from oil and gas is expected to decrease by 1990 with corresponding increases in the proportion of energy generated from other sources listed above.[2]

Annual energy consumption by existing uses on the site, is 64,882 kWh of electricity equal to about 6.3 Btu at the source.[3,4]

Removal of existing structures would require an unknown amount of energy. Fabrication and transportation of building materials, worker transportation, site development, and building construction would require about 74 billion Btu of gasoline, diesel fuel, natural gas, and electricity.[5] Distributed over the estimated 50-year life of the project, this would be about 1.5 billion Btu per year, or about 2% of annual building energy requirements.

New buildings in San Francisco are required to conform to energy conservation standards specified by Title 24 of the California Administrative Code. The State allows building developers to comply with the standards through the component performance standards method which requires the incorporation of a set of specific design features, through the use of nondepletable energy resources, or by demonstrating that the building would consume no more than a specified quantity of energy, expressed as Btus per square foot per year (energy budget).[6] Documentation showing compliance with these standards is submitted with the application for the building permit and is enforced by the Bureau of Building Inspection.

Table 15, page 114, shows the estimated operational energy which would be used by the project. Peak electricity demand for the commercial space would be about 1,750 kW and would occur at about 4:00 p.m. in August. Project demand for electricity during PG&E's

TABLE 15

ESTIMATED PROJECT ENERGY USE[1]

Allowable Under Title 24 energy Budget	
Total annual Btus[2] per square foot of office space	126,000 Btu
Total annual Btus per square foot of retail space	200,000 Btu
Daily Natural Gas Consumption[3]	
Estimated daily natural gas comsumption per square foot	40 Btu
Estimated peak daily natural gas comsumption	260 Therms
Monthly Electric Consumption[3]	
Estimated monthly electrical consumption per square foot	1.4 kWh (14,335 Btu)
Estimated total monthly electrical consumption	0.6 million kWh (6.1 billion Btu)
Annual Consumption	
Estimated total annual natural gas consumption	61,000 Therms
Estimated total annual electrical consumption	7.7 million kWh (78.8 billion Btu)
Connected kilowatt load	2,800 Kilowatts
Estimated total annual energy consumption	85 Billion Btu (15,178 barrels of oil)

[1]The project would include 431,949 net sq. ft. of office and 32,786 net sq. ft. of retail area Energy use includes space conditioning, service water heating and lighting in accordance with allowable limits under Title 24. Estimated electricity includes an additional 5 kWh/sq.ft./yr. consumed by appliances such as typewriters, computers, coffeemakers, etc. than assumed by Title 24 estimates.

[2]Btu (British thermal unit): A standard unit for measuring heat. Technically, it is the quantity of heat required to raise the temperature of one pound of water 1° Fahrenheit (251.97 Calories) at sea level.

[3]These calculations are available for review at the Office of Environmental Review, 450 McAllister Street, San Francisco, California.

Note: Energy Conversion Factors:
one gallon gasoline = 125,000 Btu
one kilowatt (kw) = 10,239 Btu assuming operational efficiency of 33%
one therm = 100,000 Btu
one cubic foot of natural gas = 1,100 Btu at source
one barrel of oil = 5,600,000 Btu

SOURCE: EIP Associates.

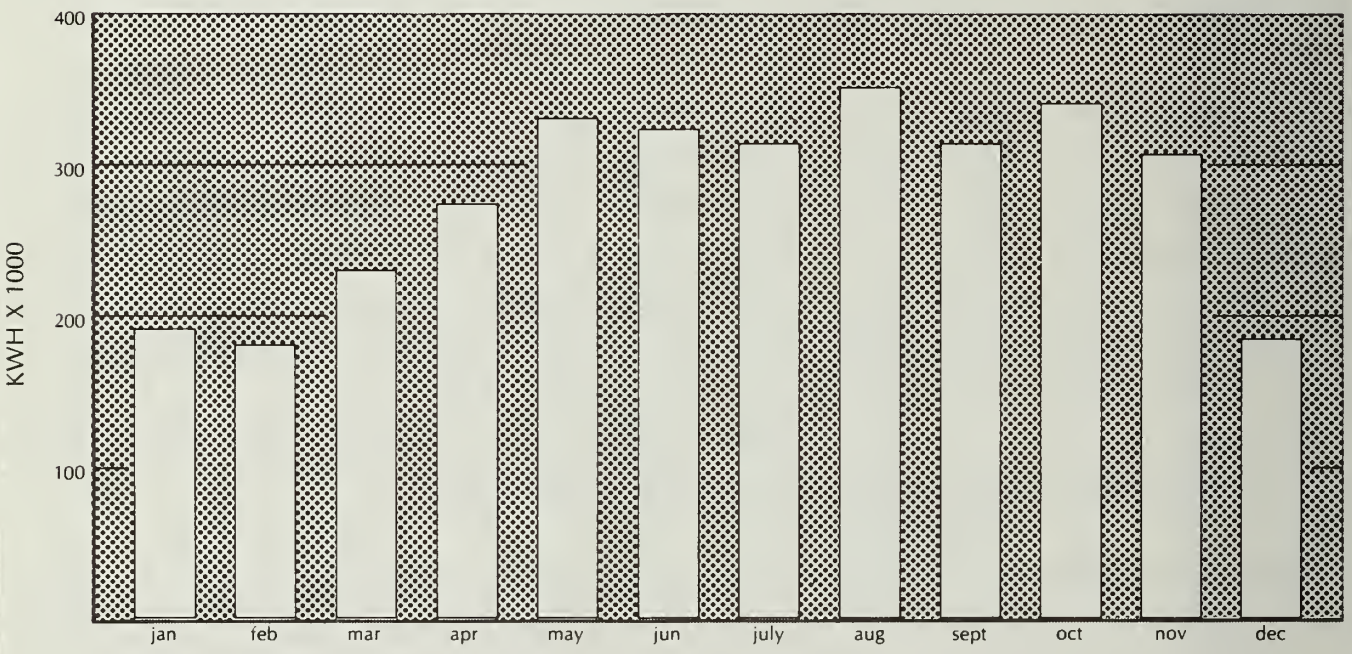
peak electrical load periods, July and August afternoons, would be about 2,200 kW, an estimated .14% of PG&E's peak load of 16,000 MW.[7] Annual and peak daily electricity consumption are shown in Figure 26, page 116. Peak natural gas consumption would be about 26 million Btu/day and would occur at about 7:00 a.m. in January. Project demand for natural gas during PG&E's peak natural gas load periods, January mornings, would be about 26 million Btu per day, or about .7% of PG&E's peak load of about 3.7 billion Btu per day.[7] Annual and peak daily natural gas consumption are shown in Figure 27, page 117.

Project-related transportation would cause additional, off-site energy consumption. For the project trip generation described in the Transportation section, pages 79 to 81, project-related trips would require gasoline, diesel fuel and electricity annually as indicated in Table 16, page 119. These figures were calculated based on data contained in the Downtown Plan EIR. The total annual transportation energy demand, converted with at-source factors to a common thermal energy unit, would be about 36.5 billion Btu, the energy equivalent of 6,518 barrels of oil. This projected use is based upon the mix of highway vehicles in California in 1987. Vehicle fuel use is expected to decrease as the vehicle fleet becomes more efficient and fuel more expensive.

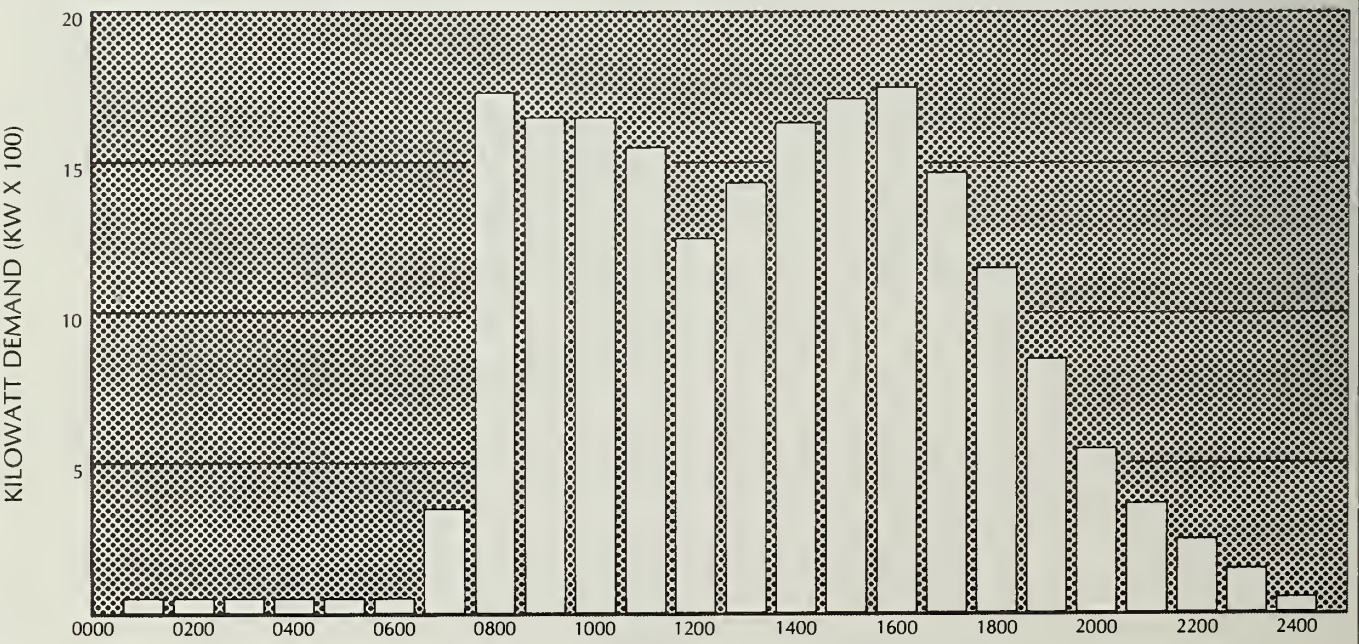
In the Energy Policy Component of the Environmental Protection Element of the Master Plan, Policy 4 under Objective 2 states that development should "encourage use of energy conserving appliances and lighting systems." To respond to Policy 4 of this objective, the project sponsor would install appliances complying with state Efficiency Regulations (Title 20, Chapter 2, California Administrative Code). The project also would respond to Policy 1 under Objective 4, to "increase the use of transportation alternatives to the automobile." The project would be adjacent to public transit on Mission Street and South Van Ness Avenue and the sponsor has agreed to designate a transportation broker for the project to encourage transit use by project workers. The project would not respond to Policy 3 of Objective 5, as it would not connect to a district heating system nor would it include cogeneration.

TYPICAL ELECTRICAL CONSUMPTION

FIGURE 26



MONTHLY CONSUMPTION



HOURLY CONSUMPTION

SOURCE: EIP ASSOCIATES

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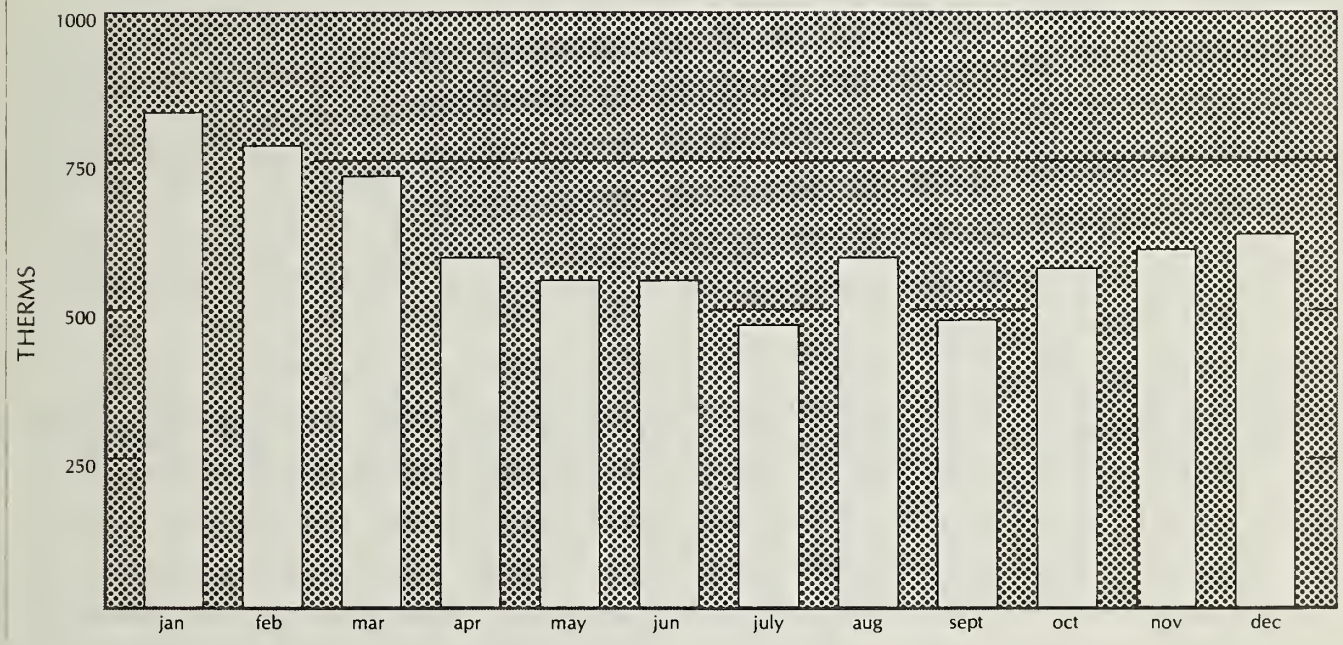
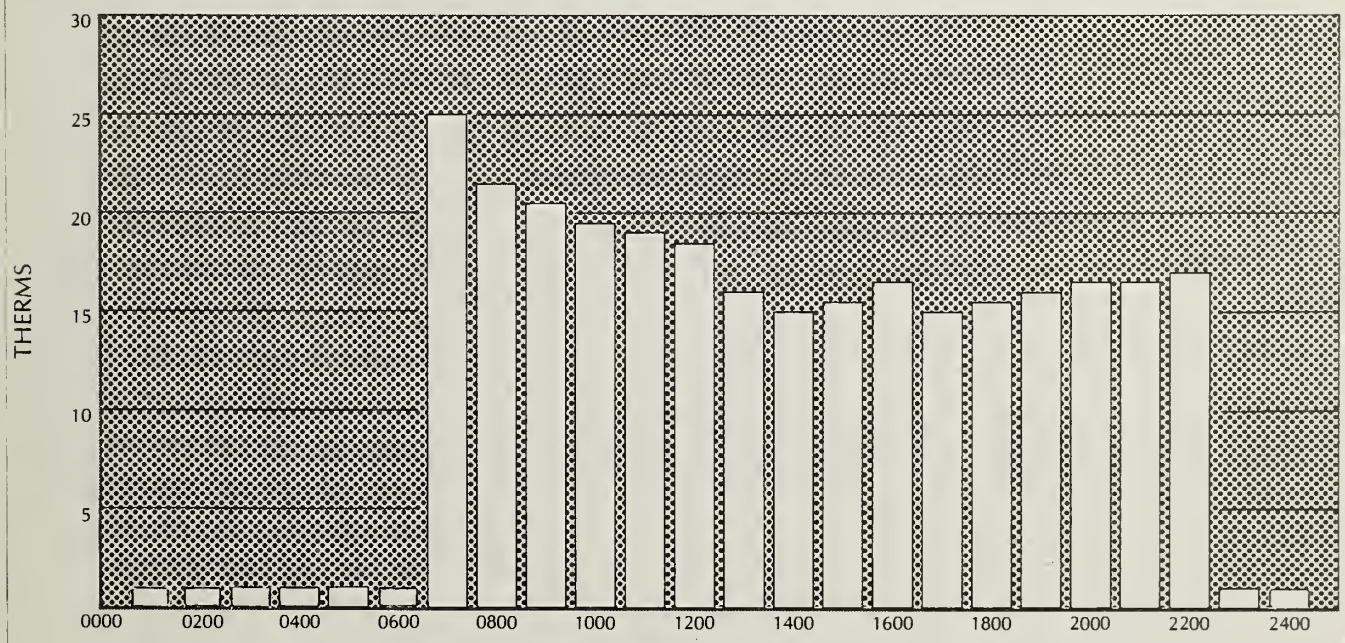
TYPICAL GAS CONSUMPTION

FIGURE 27



MONTHLY CONSUMPTION



HOURLY CONSUMPTION

SOURCE EIP ASSOCIATES

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Projections of electrical use for growth that would occur under the Downtown Plan, as analyzed in the Downtown Plan EIR, indicate an increase of about 330 to 350 million kWh of electricity per year between 1984 and 2000 as a result of all new development occurring in the C-3 district.[8,9] Projections of gas consumption for the same period and location indicate an increase of about 470 million cu. ft. (about five million therms) per year, of which 210 cu. ft. (about two million therms) per year would be for office uses.[8]

PG&E, in examining its ten-year load growth projections for San Francisco, believes that growth rates of net new office space in the downtown will diminish from the historic figure of 1.5 million sq. ft. per year to between 1 million and 1.2 million sq. ft. per year.[10] Total increased energy demand over the next decade would be approximately 200 million kWh of electricity per year. The PG&E total projection cannot be compared to the projections in the Downtown Plan EIR because they cover different time periods and different economic forecasts.[11]

A comparison of the Downtown Plan and PG&E estimates of electricity use between 1990 and 2000 in downtown San Francisco is being prepared by PG&E, to be released in a report later this year. PG&E plans to meet increased San Francisco energy demands to the year 2000 are on pages IV.G.13-14 of the Downtown Plan EIR, which are hereby incorporated by reference. In summary, that material indicates the demand increases in electricity would be met from nuclear sources, oil and gas facilities, hydroelectric and geothermal facilities, and other sources such as cogeneration, wind and imports. PG&E plans to continue receiving most of its natural gas from Canada and Texas under long-term contracts.

TABLE 16

PROJECT RELATED ANNUAL TRANSPORTATION ENERGY CONSUMPTION[1]

	Electricity (kilowatt hours)	Gasoline (Gallons)	Diesel (Gallons)	Total Btu (Millions)
Auto/Taxi/Jitney/Motorcycle		149,721		20,961
BART	896,355			9,178
Muni Electric	174,149			1,783
Regional Bus Systems			22,616	3,619
SPRR			5,839	934
Project Total	1,070,503	149,721	28,455	36,475

[1]The methods used to calculate these figures are described in detail in the Downtown Plan EIR, EE81.3, certified October 18, 1984, Vol. 2, Appendix N and the associated data is contained Table No. 6. Calculations are also based on vehicle miles traveled contained in Chapter IV.E, page 108 of this report.

[1]PG&E Annual Report, San Francisco, CA 1982.

[2]PG&E Annual Report, San Francisco, CA 1981.

[3]Existing energy use is based on PG&E customer billings for 1983; at-source thermal energy, given in British thermal units (Btu), is based on information received from PG&E, Technical Service Department, May 10, 1984.

[4]The British thermal unit (Btu) is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level. The term "at-source" means that adjustments have been made in the calculation of the thermal energy equivalent (Btu) for losses in energy that occur during generation, transmission, and distribution of the various energy forms as specified in: ERCDC, Energy Conservation Design Manual for New Non-Residential Buildings, Energy Conservation and Development Commission, Sacramento, California, 1977, and Apostolos, J. A., W. R. Shoemaker, and E. C. Shirley, Energy and Transportation Systems, California Department of Transportation, Sacramento, California, Project #20-7, Task 8, 1978.

[5]Hannon, B. et al, 1978, "Energy and Labor in the Construction Sector," Science 202:837-8470.

[6]State of California Energy Resources Conservation and Development Commission, Conservation Division, Energy Conservation Design Manual for New Nonresidential Buildings, 1984.

[7]San Francisco Department of City Planning, Downtown Plan Environmental Impact Report (EIR), EE81.3, certified October 18, 1984, Vol. 1, page IV.G.3.

[8]Downtown Plan EIR, Vol. 1, pp. IV.G.1-IV.G.17. Energy consumption factors of 18 kWh sq. ft./year and 11 cu. ft./year (about 12,100 Btu) are based on unpublished data of actual building consumption rates in the Downtown Plan EIR file, at the Department of City Planning, 450 McAllister Street, San Francisco and include base power consumption of the building core (uses covered by Title 24) and power demands of electric office machines (uses not covered by Title 24).

[9]The Downtown Plan EIR uses a consumption rate factor of 18 kWh/sq. ft./year from 1984-1990 and 16 kWh/sq. ft./year from 1990-2000. These different factors are due to Title 24 revisions to reduce building energy budgets. These new standards would be reflected by lower electrical consumption in buildings occupied after 1990.

[10]Ken Austin, Commercial-Industrial Marketing Supervisor, Pacific Gas and Electric Company, letter of March 23, 1984. This letter is available for public review at the Department of City Planning, Office of Environmental Review, 450 McAllister Street, 5th Floor, San Francisco.

[11]PG&E's analysis of a typical office building yielded on annual consumption of about 17 kWh per sq. ft. per year which agrees with the City's estimate within the limits of estimation methodology.

G. CONSTRUCTION NOISE

Ambient noise in the project vicinity is typical of noise levels in downtown San Francisco, which is dominated by vehicular traffic, including trucks, cars, Muni buses and emergency vehicles. Sidewalk noise measurements taken during the weekday p.m. peak commute time show average noise of about 66 dBA on South Van Ness Avenue, 69 dBA on Mission Street and at the Mission and South Van Ness intersection, and 70 dBA on Otis Street.[1,2] The Downtown Plan EIR indicates ambient noise levels of about 72-75 dBA along Mission Street and South Van Ness Avenue in the vicinity of the project.[3]

The nearest residences are located along Gough Street, about 150 feet north of the proposed site. These residences are exposed to about 70 dBA; interior levels are about 55 dBA when windows are open and about 45 dBA when windows are closed.

Project construction would take place over about 18 to 24 months, and would increase noise levels in surrounding areas. Construction noise levels would fluctuate depending on construction phase, equipment type and duration of use, distance between noise source and listener, and presence or absence of barriers between noise source and listener. To estimate probable noise impacts, this analysis assumes typical equipment and construction techniques. Table 17, page 122, shows typical exterior noise levels associated with the different phases of construction (see Appendix F, page A-48 for a table of typical noise levels found in the everyday environment). Interior noise levels at 50 ft. from the noise source would be about 10 to 15 dBA less than those shown in Table 17. Closed windows would reduce noise levels by about 20 to 25 dBA below those shown in the table.

Construction noise is regulated by the San Francisco Noise Ordinance (Article 29 of the City Police Code). The ordinance requires that sound levels of construction equipment other than impact tools not exceed 80 dBA at a distance of 100 feet from the source. Impact tools (jackhammers, pile drivers, impact wrenches) must have both intake and exhaust muffled to the satisfaction of the Director of Public Works. Section 2908 of the Ordinance prohibits construction work at night, from 8:00 p.m. to 7:00 a.m., if noise would exceed the ambient noise level by five dBA at the project property line, unless a special permit is authorized by the Director of Public Works.

TABLE 17

TYPICAL COMMERCIAL/INDUSTRIAL CONSTRUCTION NOISE LEVELS AT 50 FEET FROM THE SOURCE

Construction Phase	Duration of Phase (weeks)[1]	Average Noise Level (dBA)
Ground clearing	10	84
Excavation	7	89
Foundations[2]	10	78
Erection	32	85
Exterior Finishing	26	89

[1] Phases of construction would overlap.

[2] Time includes six weeks of pile driving, noise level is for construction activities other than pile driving (noise levels during pile driving could reach 105 dBA at 50 ft.)

SOURCE: Bolt, Beranek and Newman, December 31, 1971, Noise from Construction Equipment and Home Appliances, vs. Environmental Protection Agency.

The Department of Public Works allows pile driving operations under certain conditions, which may include specifying relatively quiet equipment, predrilling pile holes, and/or specifying hours of operation to reduce the number of people exposed to noise effects. Pile driving would occur intermittently over about six weeks; hammering would occur during a 5- to 15-minute period for each pile.

The major noise sources during construction would be haul trucks, power saws, cranes, air compressors, engine generators and impact torque wrenches. These pieces of equipment emit from 70 to 85 dBA at 50 feet. Interior noise levels at the nearest residences would reach about 68 dBA, which would be expected to annoy and distract residents. Additional residences are located on Brady Street within about 250 feet of the project and on Howard Street about 250 feet away. Although these buildings are partially shielded by intervening structures, noise levels at the exterior of these structures would reach 82 dBA during the use of impact torque wrenches, especially on upper floors of the proposed project.

Interior levels would reach 67 dBA which would also annoy and distract residents. Several commercial buildings and offices are located within 100 feet of the proposed project. During framing, noise levels in the interiors of these buildings would reach 70 dBA with windows closed. This level would annoy and distract office workers, and interfere with conversations and use of the telephone.

During the remainder of construction the predicted levels would be approximately ten dBA lower than those reported above. Thus, the highest interior noise level to which either nearby residents or office workers would be exposed would be about 58 dBA. This level could interfere with conversation and would be disruptive although it would not interfere with telephone use. It would be likely to interfere with sleep, for day sleepers, during the construction period.

No other projects in the area would contribute to cumulative construction noise.

The proposed project would include several mitigation measures which would contribute to a lessening of potential construction noise impacts of the project, including requirements that the contractor muffle impact tools and use electric rather than diesel equipment, construct a noise barrier around the site, predrill holes for piles and limit pile driving to minimize disturbance of neighboring uses.

In summary, during the majority of construction activity, noise levels would be expected to be at or below existing levels in the area. There would be times, particularly during the operation of impact wrenches, when noise would interfere with indoor activities at nearby offices, retail stores and residences.

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[1]Noise measurements were taken on November 15, 1985 at 4:15 to 5:40 p.m. by Charles Salter Associates, Inc. Measurement locations were at the corner of Mission and South Van Ness, on South Van Ness about midpoint along the property frontage, on Mission Street, in front of the proposed Building III and on Otis Street in front of the proposed Building II.

[2]A decibel (db) is a logarithmic unit of sound energy intensity. Sound waves, traveling outward from a source, exert a force known as a sound pressure level (commonly called "sound level"), measured in decibels. A dBA is a decibel corrected for the variation in frequency response to the typical human ear at commonly encountered noise levels.

[3]Department of City Planning, Downtown Plan Environmental Impact Report (EIR), EE81.3, certified October 18, 1984, Volume 1, pp. IV.J.1-19, particularly Table IV.J.2, pp. IV.J.9-10.

H. EMPLOYMENT, RESIDENCE PATTERNS AND HOUSING

1. Employment

Direct Project-Generated Employment

The project would accommodate approximately 1,712 permanent full-time jobs on-site including 1,618 office workers (at one worker per 267 gsf) and 94 retail workers (at one worker per 350 gsf). The net increase would be 1,707 jobs.

No tenants have leased space in the proposed project at this time. Prospective tenants are anticipated to consist mainly of government agencies, corporate and professional businesses, including those firms, in need of large square footage floors, which would locate less space- and labor-intensive operations (data processing, clerical operations, etc.) to space not currently available in the Financial District. Because specific tenants are unknown at this time the projected total number of employees was derived on the assumption of an average number of square feet per employee, by employment type. There are currently five employees of the Firestone Tire Shop on the project site which would be displaced by the proposed project.

Indirect Employment

Indirect employment would be generated by the proposed project. Through the multiplier effect, by which on-site activities and employees create additional employment off-site through off-site expenditures for goods and services, employment would be generated in the Bay Area.[1] On the assumption that the uses on the project site are primarily office intensive uses, from about 1,795 to about 6,644 additional jobs in other sectors of the Bay Area economy would result from the project.[1, 2] Thus, the total number of permanent Bay Area jobs that would be created by proposed project would range from about 3,502 to about 8,351 (1,707 net direct jobs and from 1,795 to about 6,644 indirect jobs).

Construction Employment

Project construction would require about 490 person-years of labor, an average of about 245 construction jobs over the 24-month construction period. As a result of the multiplier effect of project construction about 380 construction-related indirect jobs would be created during the construction period. Some of this secondary employment would be in San Francisco, although it is difficult to estimate the amount.

2. Housing

Project-Generated Housing Demand and Housing Policy

To the extent that the project would attract employees from outside the City and contribute to the formation of additional households by existing City residents, it would also contribute to increased housing demand in San Francisco. Not all of the project's net new employees would seek housing in the City. Some new employees would choose to live outside of the City and others may currently live outside of the City and not necessarily change their residence location as a result of a new job location.

San Francisco's Office Affordable Housing Production Program (OAHPP) requires housing to be provided to offset the demand created by office development, for all projects including more than 50,000 gross square feet of office space. On July 8, 1985, the Board of Supervisors approved the Office Affordable Housing Production Program, Ordinance No. 358-85 which estimates that a demand for 0.386 housing units is created for each 1,000 gross square feet of office space built. Under these assumptions, the proposed project would generate a local housing demand for 167 housing units.

The project includes a mitigation measure (page 145) which describes how the project sponsor would meet this housing demand.

Housing Affordability

Pursuant to the California Environmental Quality Act (CEQA) Guidelines, Section 15150(a), discussion of housing affordability for new office workers is incorporated by reference from the Second Street Square Final EIR, 82.591E, certified January 12, 1984 (pp. 53-55). Briefly, while a survey of occupants of a building comparable to the project would yield some housing affordability data, accurate identification of housing affordability characteristics of persons entering the San Francisco housing market as a result of a new office project is virtually impossible. The problems with making such a determination include: 1) the identity and financial resources of persons employed in the newly constructed space cannot be known prior to occupation of the project; 2) persons working in the newly construction space (in old or newly created jobs) may not be newly employed in San Francisco; and 3) persons newly employed in San Francisco in newly

created jobs may not have obtained their jobs as a result of new office development. Even if the number of new employees and their preferences for housing were known, a household's ability to pay for housing depends on a variety of factors in addition to individual income, such as family composition and housing preferences.[3]

Demolition of Residential Hotel Units

The proposed project would demolish the Evergreen Hotel, a vacant 26-unit residential hotel, which was damaged (including irreversible structural damage) in a fire in 1983.[4] Since that time no tenants have resided at the site and the structure has not been renovated.

The San Francisco Residential Hotel Unit Conversion or Demolition Ordinance (San Francisco Administrative Code, Chapter 41) makes it illegal, among other things, to demolish residential hotel units in the City of San Francisco. The ordinance requires one-for-one replacement of the units prior to demolition. The project sponsor would comply with this replacement requirement in one of the following ways, as outlined in the ordinance: the sponsor would cause to be constructed 26 comparably sized and priced, legal units; the sponsor would cause 26 units which have been vacant for at least one year to be brought back onto the housing market; or the sponsor would contribute an in-lieu fee, equal to 40% of the cost of construction of the replacement units plus site acquisition costs, to the San Francisco Residential Hotel Preservation Fund to be used for the provision of low-income housing.

3. Cumulative and Indirect Effects

Future Residence Patterns for San Francisco

Employment growth and building development in downtown San Francisco will result in more employees working and living in the City. Over time, more existing residents will take San Francisco jobs and others who take San Francisco jobs will move into the City.

The future residence patterns described below are quantified and provide the basis for the qualitative conclusions about the housing market implications of downtown growth described in the following subsection. Because the residence patterns can be quantified

for both cumulative development and for the increment of growth represented by the project, this allows an estimate of the project's contribution to the impacts of cumulative growth.

Downtown Plan Forecast As Cumulative Context

Forecasts of residence patterns in the year 2000 were prepared for the Downtown Plan EIR.[5] These forecasts incorporate future housing, labor force, and employment patterns in San Francisco and throughout the region and consider changing demographic, housing market, and transportation factors.

Growth expected throughout the region was included in the Downtown Plan EIR analysis of the housing impacts of C-3 District growth. The approach was to use ABAG's regional employment forecasts to describe the growth that is expected to occur by the year 2000. These forecasts incorporate the plans and projects that are expected to be completed by 2000 as well as land use policies from all Bay Area communities. They also include future employment in projects as yet not conceived or proposed. Further, they account for the net result of decreases in employment as firms go out of business or cut back on operations and increases in employment accommodated by new development. They also account for changes in the use of existing space.[6]

This approach incorporates a cumulative citywide and regional employment context that is consistent with forecasts of expected future housing and labor force throughout the City and the region. To assess housing impacts, it is important that expected growth of employment be analyzed within the context of expected growth of the housing supply and of the region's workforce for consistent time periods. The Downtown Plan forecast approach to cumulative impact assessment recognizes that growth besides that in the C-3 District (employment growth in greater downtown San Francisco, the rest of the City, and the region) will also be competing for labor and housing in San Francisco and the rest of the region. ABAG's regional housing supply and labor force forecasts were used to provide the future context for areas outside of San Francisco.

According to the Downtown Plan EIR forecasts, approximately 189,000 C-3 District workers would be living in San Francisco in 2000. This represents an increase of 30,000

residents employed in the C-3 District over the 159,000 estimated for 1984, a 19% increase.[7] Relatively more employed San Franciscans would be employed in the C-3 District; the percentage of all employed San Franciscans who hold C-3 District jobs would increase from 45% in 1984 to 47.5% in 2000. Relatively fewer C-3 District jobs would be held by San Franciscans. The percentage of all C-3 District jobs held by San Franciscans would decine from 55.5% in 1984 to 50.2% in 2000. These changes would be the result of cumulative development and employment growth in the C-3 District between 1984 and 2000. Although comparable forecasts have not been prepared for downtown areas outside the C-3 District, the same patterns of change are expected to occur in these areas as well as in the C-3 District portions of the downtown. The number of San Francisco residents working in downtown will increase, the percentage of employed San Franciscans working downtown will increase, and the percentage of downtown jobs held by City residents will decline.

It is important to understand the difference between the two percentages above. In each case, the same estimate of the number of jobs held by San Francisco residents is compared to an estimate for a larger group: to all employed residents of the City in the first instance and to all employment (in the C-3 District or the greater downtown) in the second. These percentages both describe the same employment situation, but from different perspectives. The percentage of jobs held by City residents is used more often, primarily for transportation analysis. The percentage of City residents who work in downtown San Francisco is used less often. This latter perspective is a more direct measure of the role of downtown jobs in employing San Francisco residents.

The residence patterns characteristics of future occupants of the Van Ness Gateway project are likely to be similar to those of similar types of office activities predominant in the C-3 District. Assuming residence patterns similar to those of the nearby C-3 District activities, approximately 778 of the 1,712 project employees would be San Francisco residents. The proposed project woud be located outside the C-3 District and is thus not included as part of the C-3 District residence patterns forecasts quantified above. Nevertheless, the growth represented by the project and the distribution of this growth by place of residence is accounted for in the cumulative housing market impact assessment.

Housing Market Implications for San Francisco[8]

There is a complicated series of interactions between employment growth and the housing market impacts of that growth. Throughout this process, adaptations or changes in conditions can be identified, but cannot be solely attributed to employment growth.

With continued employment growth there would be additional demand for San Francisco housing from people with strong preferences for living in the City and with the ability and willingness to pay for housing. This demand would be added to an otherwise competitive market with relatively high prices/rents.

At the same time, additional housing would be produced in San Francisco. There would be more additional supply relative to additional demand in the future than in the past. The primary reason is that housing market factors together with local policies and redevelopment programs are expected to support a larger addition of housing in the City than occurred in the past two decades. Nevertheless, San Francisco is unlikely to accommodate all of the households that would otherwise choose to live in the City. This is explained by the City's role as the employment center for a large region, by the limited land availability in the City, and by the higher costs of producing housing in San Francisco.

Downtown employment and employment growth will continue to be among the factors supporting a competitive housing market. It is unlikely that changes in housing demand due to downtown growth alone would be the cause of significant changes in prices and rents. Future housing prices and rents will depend on other factors besides downtown employment growth (such as interest rates and local land use policies and development costs throughout the region).

Not all of the additional downtown workers would live in San Francisco, however some would choose to do so. Many of the additional workers would be willing to pay higher prices for City housing to save on the time and cost of commuting from a more outlying location. Many of the additional workers preferring to live in San Francisco would be able to pay more for housing than some current residents.

Those workers who choose to live in the City would compete for the existing supply of housing. Those with greater financial resources would support the production of housing by the private market. Those with less financial resources would add to the competition for the stock of housing available at prices and rents below those needed for new construction. To the extent that prices/rents remain below this threshold, the supply of these types of units would not be expanded. Instead, prices/rents of existing units would be somewhat higher, occupancies would be higher (more people per unit because children live at home longer, more people live together, etc., and/or lower vacancies), and there would be pressures to upgrade the existing stock.

Competitive market pressures would be greatest for rental and for-sale housing priced below average, particularly for units below the threshold prices/rents for new housing production. Increased competition in an already competitive market, the relatively high threshold for new construction, and the large pool of consumers (not just downtown workers) with preferences for the older housing stock in San Francisco, all would result in more housing consumers seeking these types of units. The purchase and upgrading of lower-cost older housing is the first step in the process of neighborhood change known as gentrification. Often, existing lower-income residents can be "priced out" of their housing in the upgrading process.

Higher prices and rents, particularly for the relatively lower-cost housing in older neighborhoods, would have various implications over time, for those in the housing market as well as for other existing residents. Some people would decide not to move into the City and some existing residents would move out of the City for more acceptable housing elsewhere. Many individuals would continue to live in San Francisco and pay higher prices/rents for the same City housing. Still others, those unable or unwilling to pay more, would accept City housing which does not fully meet their preferences or needs. Those with the fewest resources to pay for housing (low and some moderate income households) would bear the greatest share of the negative impacts of a housing market with higher prices/rents. These impacts vary--households could move to less satisfactory housing in the City or elsewhere, or more household members could have to contribute to housing expenditures (either within the existing household or because people decide to live together to combine their incomes). It is more likely that the poor will continue to live in

the City, although in more crowded or otherwise inadequate housing, than move outside the City. And finally, owners of existing units would benefit to the extent that their housing appreciates. It is not possible to quantify how many households would be affected in each of these ways.

This scenario of future housing market conditions in San Francisco implies that housing affordability will continue to be a problem for many of the City's households. The additional demand due to downtown employment growth would add to a future housing market situation in which many households, particularly those with incomes below the threshold needed to support new production, are expected to be paying a larger percentage of their incomes for housing or accepting less housing services than in the past.

Generally, those households with fewer financial resources available to pay for housing would make the most sacrifices in adapting to more competitive market conditions. They have less ability to compete for housing and fewer housing options. San Francisco currently has and will continue to attract a large number of persons that will be faced with these difficulties in securing housing. They include renters, younger persons, those holding entry level jobs, the elderly and others on fixed incomes, newly-arrived immigrants as well as other poor and unemployed persons.

The proposed project, as part of the future pattern of downtown office development, would contribute to these housing market impacts. The project's individual contribution cannot be separately identified.

Regional Perspective on Residence Patterns and Housing

The residence patterns of San Francisco workers can also be considered from a regional perspective. In fact, future labor force, housing, and employment throughout the region were important factors in the Downtown Plan EIR residence patterns forecasts. Expected trends in labor force participation, workers per household, housing production, and employment growth provided the future regional context in which the Downtown Plan EIR forecasts were prepared.

Table 18, page 133, presents residence patterns forecasts for C-3 District workers as prepared for the Downtown Plan EIR and compares these forecasts to forecasts of the total employed population in each part of the region prepared by the Association of Bay Area Governments (ABAG).[6]

The Downtown Plan EIR 1984 estimates and forecasts for 2000 (first three columns on the left) indicate that the largest number of C-3 District workers would live in San Francisco, followed by the East Bay, the Peninsula, and the North Bay. The largest increase of C-3 District workers would be for those living in the East Bay, followed by San Francisco, the Peninsula and the North Bay. The percentages to the right compare the residence patterns forecasts for C-3 District workers to ABAG's forecasts of total employed residents throughout the region. C-3 District workers would represent a relatively large share of all employed San Franciscans and relatively smaller proportions of the labor force in other Bay Area counties. Comparing 1984 and 2000, there would not be major changes in the C-3 District percentages of the labor force in each area.

Because regional housing supply assumptions, as well as labor force and employment trends, are the basis for the forecasts, the above observation that the changes over time in the downtown worker percentages of the region's employed population in each area would not be large indicates that downtown workers would not require much larger shares of the region's housing in the future than they do now. In other words, a housing stock consistent with local policies could accommodate both future downtown workers and future workers elsewhere in the region.

As part of total regional employment growth in the future, increases in downtown employment can be viewed as contributing to regional housing demand. A strong regional economy has and will continue to be a factor supporting a competitive regional housing market with relatively high housing prices and rents. By itself, downtown growth would make only a small difference in the region's housing market outside of San Francisco. If downtown growth did not occur and all other employment growth and housing market factors remained as forecast, it is unlikely that the Bay Area's future housing market would be very different from what would otherwise occur with downtown growth.

TABLE 18

REGIONAL PERSPECTIVE ON RESIDENCE PATTERNS

	Downtown Plan Forecast of C-3 District Workers by Place of Residence[1]			Total Employed Population in In Each Part of the Region[2]			C-3 District Workers as Percent of Total Employed Population In Each Part of Region		
	Total 1984	Total 2000	Change 1984-2000	Total 1984	Total 2000	Change 1984-2000	Total 1984	Total 2000	Change 1984-2000
San Francisco	159,000	189,000	30,000	355,000	404,000	49,000	45%	47%	61%
East Bay	73,000	110,000	37,000	1,032,000	1,407,000	375,000	7	8	10
Peninsula	35,000	48,000	13,000	1,040,000	1,326,000	286,000	3	4	4
North Bay	19,000	29,000	10,000	269,000	393,000	124,000	7	7	8
TOTAL	286,000[3]	376,000[3]	90,000	2,696,000	3,530,000	834,000	11%	11%	11%

[1] Includes permanent employment and annual average construction employment. Incorporates changes in employment for office, retail, hotel and other uses.

[2] Forecasts of employed residents in Bay Area counties from ABAG, Projections '83. ABAG presents forecasts of employed residents for 1985 and 2000. For comparability with the cumulative analyses (which use 1984 as the base year), ABAG's 1980 to 1985 projections were prorated over the five-year period to estimate 1984 conditions for the region.

[3] The Downtown Plan EIR forecasts include some workers who would live outside the Bay Area. This is a small number and is not shown here.

SOURCE: Recht Hausrath & Associates and EIP Associates.

All other things being equal, regional employment growth would mean higher prices and rents for housing than would otherwise be the case in the future. It would also mean lower housing services (less acceptable housing conditions at the same, or higher, price) for some of the region's households. How much difference (higher prices/rents or lower services) depends on other housing market factors besides employment growth (interest rates, land use policies, other demand factors, etc.). It also depends on the amount of employment growth. Downtown employment growth alone would have less impact than total regional growth.

The housing impacts of employment growth are not uniform throughout the region. Generally, there will be more effects in nearby communities than in those further from the location of job growth. The main reason is that, all other things being equal, households have a preference for residential locations closer to places of work and can pay more for housing at a closer location because they are not paying the higher transportation costs they would otherwise pay at a more distant place.

Assuming residence patterns similar to those of the nearby C-3 District activities, of the total of 1,707 new employees generated by the project, 778 (45.6%) would live in San Francisco, 577 (33.8%) would live in the East Bay, 187 (11%) would live on the Peninsula and 164 (9.6)% would live in the North Bay.[9] The proposed project, as part of the future pattern of downtown office development would contribute to the region-wide housing market impacts described above. The project's individual contribution to these impacts cannot be separately identified.

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[1]The lower estimates of indirect employment are based on the Bay Area Input-Output Model from Cooperative Extension Service, University of California, Berkeley, San Francisco Bay Area Input-Output Model 1967-1974, July 1978. A multiplier of 1.18 was used for finance, insurance, and real estate (FIRE) jobs and 1.55 for construction. The higher estimates of indirect employment are based on the Association of Bay Area Governments Study, 1980 Hybrid Input - Output Model for the San Francisco Bay Region, April 1984, page XIV. The multipliers used in the analysis are Type II, which includes indirect and induced employment generation, and should be viewed as the theoretical maximum impact level. Actual employment generation would probably be somewhat less.

[2]For a description of the methodology used to forecast residence patterns, see San Francisco Department of City Planning, Downtown Plan Environmental Impact Report

(EIR), EE81.3, certified October 18, 1984, Vol. 2, pages I.8-I.30. For a description of existing and forecast future residence patterns of C-3 district workers, see the Downtown Plan EIR, Vol. 1, Section IV.D., Residence Patterns and Housing.

[3]San Francisco Department of City Planning, Second Street Square Final EIR, 82.591E, certified January 12, 1984.

[4]Peter A. Culley, S.E., President, Peter Culley and Associates, Consulting Structural Engineers, letter to Mr. Thomas Leary, July 25, 1985. This letter is on file and available for public review at the Department of City Planning, 450 McAllister Street, San Francisco, CA.

[5]San Francisco Department of City Planning, Downtown Plan Environmental Impact Report (EIR), EE81.3, certified October 18, 1984. For a description of the methodology used to forecast residence patterns, see Vol. 2, Appendix I, pp. I.8-I.30. For a description of existing and forecast future residence patterns of C-3 District workers, see Vol. 1, Section IV.D, Residence Patterns and Housing. Also see Vol. 3, Summary of Comments and Responses, pp. C&R-D.82 - C&R-D.83 for a discussion of the role of the residence patterns forecasts in analyzing future housing market conditions. These sections are hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

[6]Association of Bay Area Governments, Projections '83. This report presents forecasts from 1980 to 2000 of population, employment, households and employed residents for each of the nine Bay Area counties.

[7]Downtown Plan EIR, Vol. 1, p. IV.D.67.

[8]Downtown Plan EIR, Vol. 3, pp. C&R-D.83-94. This subsection presents a summary of the discussion in the EIR Summary of Comments and Responses (pp. C&R-D.83-94) [(see Vol. 1, pp. IV.D.77 - IV.D.82 and Vol. 2, pp. I.1 -I.8)], which is hereby incorporated by reference pursuant to State CEQA Guidelines, Section 15150.

[9]The methodology for deriving estimates of workers by place of residence for the project is described in Appendix G of this EIR, see p. A-52.

I. GROWTH INDUCING IMPACTS

The project would include about 431,949 gross square feet of office space (a net increase of about 431,949 gross square feet) and about 32,786 square feet of retail and restaurant space (a net increase of about 12,786 gsf). Employment at the site would increase from about 5 to about 1,712 people, an increase of about 1,707. Occupants of the proposed project are not known, but but could include tenants expanding or relocating from other San Francisco locations, tenants relocating from outside San Francisco and tenants new to the Bay Area. The increase in employment at the project site, therefore, would not necessarily represent employment that is new to San Francisco. If the project were fully leased, however, and the office space of the project did not create permanent vacancies in other San Francisco office buildings, total employment in San Francisco would increase by about 1,707 jobs due to the project. Approximately 1,795 to 6,644 additional jobs would be supported indirectly in the Bay Area through the multiplier effect (see Chapter IV., Impacts, H., Employment Residence Patterns and Housing, p. 124).

If marketed successfully, the project, together with other planned development, could have growth-inducing effects by demonstrating a market for office space in this area. This could thereby encourage similar development on lots (including smaller lots assembled for development) currently vacant or occupied by low-rise or mid-rise buildings in the South Van Ness area and the Inner Mission District. The demand would reflect the trend of growth in service sector and headquarters office activities and employment in San Francisco and the decline in manufacturing, wholesaling and automotive activities. Increases in office space and employment would contribute to continued growth of local and regional markets for housing, goods and services, and could result in rent increases in commercial space in the South Van Ness area and the Inner Mission district. These effects would be less extensive were the vacancy rate for office space to rise. Should this occur, projected increases in employment would be less and the growth in demand for goods, services and housing would be lower.

It is expected that some workers in the city, including some in the project, would want to live in San Francisco. Employment growth, however, would not be reflected directly in increases in demand for housing and City services to residents, as some new jobs would be held by individuals who already live and work in the City; who live in the City but

previously either did not work, or worked outside the City; who live in surrounding communities; or by those unable to afford or locate housing in the City. New workers would also increase demand for housing in other parts of the Bay Area.

Any net increase in employment would increase the demand for retail goods and services in the project area. Increases in employment would also increase demand for business services, to the extent that the new space would not be occupied by firms providing those services. In response, demand would increase for existing space and possibly for further new development.

The project would be built in a developed urban area, and no expansion to the municipal infrastructure not already under consideration would be required to accommodate new development and increased employment due to, or induced by, the project.

V. MITIGATION MEASURES WHICH WOULD MINIMIZE THE POTENTIAL IMPACTS OF THE PROJECT

In the course of project planning and design, measures have been identified that would reduce or eliminate potential environmental impacts of the proposed project. Some of these measures have been or would be adopted and implemented by the project sponsor, project architects or contractors and are proposed as part of the project. Some measures are under consideration and others have been rejected. Implementation of some measures may be the responsibility of public agencies.

Each mitigation measure and its status are discussed below. Where a measure has not been included in the project, the reasons for this are discussed. Any or all of the measures not included in the project could be required by the City Planning Commission to be included as part of the project as conditions of approval if the project is approved. Measures indicated with an asterisk (*) were adopted as part of the project in the Final Initial Study (see Appendix A, pages A-1 to A-26).

LAND USE/GROWTH INDUCEMENT

Measures Not Proposed to be Included in the Project

- The proposed project could be reduced in size by eliminating floors and reducing the scale of upper floors, thereby reducing the amount of net new office space provided on the project site or by reducing ground-level retail space. This measure has not been included in the project because the project sponsor believes that the reduction in the amount or size of office space would interfere with the sponsor's objective of meeting a demand by large floor area office users and because the project sponsor believes that there is a demand for retail space to serve office users and others in the vicinity, including occupants of the proposed office space.

URBAN DESIGN

Measures Proposed to be Included in the Project

- The project would include glass which would minimize potential glare impacts on automobiles.

- Design features, such as a series of upper level setbacks, the concave design of the entrance to Building III and public open space on Mission Street, would minimize the apparent bulkiness of the buildings. Design features intended to associate the project with buildings in the Civic Center include rounded edges on all three buildings and glass domed roofs.

Measures Not Proposed to be Included in the Project

- The height and/or bulk of the project buildings could be reduced by eliminating floors, additional division of upper floors into separate towers or greater upper level setbacks. Such measures have not been included in the project because the project sponsor believes that reduction in the number or size of the office floors would make it difficult to fulfill the objective of meeting a demand for larger floor areas.

TRANSPORTATION

Measures Proposed to be Included in the Project

- On-site transportation brokerage services would be provided for the life of the project to coordinate measures that are part of a transportation management program, such as: encouraging a flexible time system for employee working hours (to be developed by project tenants in consultation with the Department of City Planning) to reduce peak-period congestion by a planned spreading of employee arrivals and departures; encouraging transit use through the on-site sale of BART, Muni, and other carriers' passes to employees; and encouraging employee carpool and vanpool systems in cooperation with RIDES for Bay Area Commuters by providing a central clearinghouse for carpool and vanpool information. The transportation management program and the responsibilities of the provider of the transportation brokerage services would be detailed in a Memorandum of Agreement between the

project sponsor and the Department, which would be executed prior to issuance of an occupancy certificate.

- When both buildings are 80% occupied, the sponsor would conduct a survey, in accordance with methodology approved by the Department of City Planning, to assess actual trip generation patterns of project occupants and actual pick-up and drop-off areas for carpools and vanpools. The project sponsor would make this survey available to the Department of City Planning. This measure would provide needed information to aid in transportation planning within the City.

- The project sponsor would expand van service now provided for Van Ness Plaza in order to provide reliable and fast connections to the Trans Bay Terminal, BART and other regional transit carriers to encourage transit use pursuant to a plan of service approved by the Department of City Planning.

- The project would include a through driveway for trucks and delivery vehicles in Building II, enabling loading vehicles to enter on Mission Street and exit directly to Otis Street, avoiding on-street maneuvering on Otis or Mission Streets, both Transit Preferential Streets, which could be disruptive to Muni operations.

- A right-turn only restriction would be placed on the parking exit from Building III onto South Van Ness to avoid potential traffic conflicts and increased congestion on South Van Ness.

- The entrances to the basement level parking garages under Buildings II and III would have parking control equipment placed within the project in order to provide queuing space for one to two cars in order to avoid traffic congestion and interruption of Muni service on Mission Street.

- The project would include one more loading space in Building III than required by the City Planning Code, meeting the standards of Resolution 9286. Three of the loading spaces would be provided in the west wing and one would be provided in the east wing, providing better freight loading service to future tenants and minimizing on-

street maneuvering conflicts. All spaces would be a minimum of 35-feet deep, as specified in Resolution 9286, in excess of the City Planning Code which allows the first space to be 25-feet deep with all others being 35-feet deep. The loading space in Building II would have through access, with trucks entering from Mission Street and exiting onto Otis Street, requiring no on-street maneuvering, as required in Resolution 9286 of all spaces accessed from Transit Preferential Streets.

- The project sponsor would, in consultation with the Municipal Railway, install eyebolts for Muni trolley wires on the proposed building wherever necessary or agree to waive the right to refuse the attachment of eyebolts to the proposed buildings if such attachent is done at City expense.

- The project sponsor would investigate the possibility of providing parking spaces required by Section 151 of the City Planning Code, either on-site or off-site within 800 feet as allowed under Section 159(b) of the City Planning Code, in order to minimize the on-site net parking deficit of 33 spaces and to meet the requirement of the Code.

- Building directories and signs for the service entrances and elevators would be provided in each building as specified under City Planning Commission Resolution No. 9286.

- The project sponsor would petition the Department of Public Works to shorten the walking distance across Mission Street and South Van Ness Avenue, by bulbing the corners, widening the medians or any other method determined appropriate by the Bureau of Traffic Engineering.

- The project would include in the parking structures warning devices (lighted signs and noise emitting devices) to alert pedestrians to vehicles exiting the structures onto Otis Street and South Van Ness Avenue.

- During the construction period, construction truck movement would be permitted only between 9:00 a.m. and 3:30 p.m. on Mission and Otis Streets to minimize peak-

hour traffic conflicts and to accommodate queueing of Muni buses prior to peak hour. The project sponsor and construction contractor would meet with the Traffic Engineering Division of the Bureau of Engineering of the Department of Public Works, the Fire Department, Muni and the Department of City Planning to determine feasible traffic mitigation measures to reduce traffic congestion during construction of this project and other nearby projects. To minimize cumulative traffic impacts due to lane closures during construction, the project sponsor would coordinate with construction contractors for any concurrent nearby projects that are planned for construction or later become known.

- Secure, safe bicycle storage facilities would be provided relative to the demand generated by project commuters and short-term visitors.

Measures Under Consideration

- The project sponsor is considering the provision of up to 370 additional valet style (equivalent to 157 self-park) parking spaces for a total of up to 889 valet-style (equivalent to 403 self-park) spaces. This would be accomplished by the construction of up to two levels of basement parking under the east wing of Building III and a third basement level under the west wing. This could provide up to 787 valet-style (or 344 self-park spaces) under Building III plus the 102 valet-style (or 59 self-park) spaces proposed under Building II. With such additional parking, the proposed project would provide five spaces less than the City Planning Code requirements for parking and produce an overall net surplus of on-site parking compared to projected demand. The provision of such additional parking would depend on demand from prospective major tenants.

Measures Not Proposed to be Included in the Project

- Resolution 9286 specifies that "the maximum allowable width for any single curb cut shall be 24 feet; for a combination of curb cuts along any single street frontage the maximum allowable width shall be 36 feet with no less than 20 feet between any two driveways." The proposed project would exceed the maximum width for a single curb cut by 36 feet and the maximum combination by 48 feet. The Resolution also calls for buildings with four or more freight loading spaces to include internal maneuvering

space for all freight and service vehicles. Building III includes four freight loading spaces, three in the west wing and one in the east wing. The loading areas are set apart by 130 feet.

Measures That Could Be Implemented by Public Agencies

- The City could adopt and implement the transportation improvements described in the Downtown Plan, which would affect transportation services in the project area. Cumulative transportation impacts within San Francisco would be reduced by the improvements and, to the extent that San Francisco can influence transportation improvements recommended in the Plan for areas outside the City, adoption of the Plan will reduce regional cumulative impacts caused by downtown growth.

- Some of the Implementing Actions would require approval by decision-makers outside the City and County of San Francisco; many of the measures would require action by City agencies other than the City Planning Commission, such as the San Francisco Public Utilities Commission and/or Board of Supervisors. These measures are systemwide measures that must be implemented by public agencies. Other than project-specific measures such as the relevant transportation mitigation measures described above as part of the project or such as the Transit Development Impact Fee imposed by San Francisco ordinance 224-81 which contribute indirectly to implementation of these system-wide measures, it is not appropriate to impose mitigation at system-wide levels on individual projects.

- Pacific Gas and Electric Company could coordinate work schedules with other utilities requiring trenching, so that street disruption would take place during weekends and off-peak hours. This should be done through the San Francisco Committee for Utility Liasion on Construction and Other Projects (CULCOP). In-street utilities should be installed at the same time as the street is opened for construction of the project to minimize street disruption.

AIR QUALITY

Measures Proposed to Be Included in the Project

- The project sponsor would implement the mitigation measure identified for housing impacts (see page 145) to also mitigate air quality impacts. Improving the balance of jobs and housing in San Francisco would reduce long-distance home-to-work travel, and would reduce local and regional emissions of all pollutants.

- The project sponsor would require the general contractor to sprinkle demolition sites with water continually during demolition activity; sprinkle unpaved construction areas with water at least twice per day; cover stockpiles of soil, sand, and other such material; cover trucks hauling debris, soil, sand, or other such material; and sweep streets surrounding demolition and construction sites at least once per day to reduce TSP emissions. The project sponsor would require the general contractor to maintain and operate construction equipment so as to minimize exhaust emissions of TSP and other pollutants, by such means as a prohibition on idling motors when equipment is not in use or when trucks are waiting in queues, and implementation of specific maintenance programs (to reduce emissions) for equipment that would be in frequent use for much of a construction period.

Measures That Could Be Implemented by Public Agencies

- Appropriate agencies could implement mitigation measures identified for traffic impacts (see pages 139 to 143) to also mitigate air quality impacts. Increasing roadway capacity (where feasible and cost effective), reducing vehicular traffic through increased ridesharing (carpool, vanpool and transit), and implementing flexible and/or staggered work hours would reduce local and regional emissions of all pollutants.

CONSTRUCTION NOISE

Measures Proposed to be Included in the Project

- The construction contract would require that the project contractor muffle and shield intakes and exhaust, shroud or shield impact tools, and use electric-powered rather than diesel-powered construction equipment, as feasible, so that noise would not

exceed limits in the City's Noise Ordinance (Article 29, San Francisco Police Code, 1972).

- The general contractor would construct barriers around the site, and around stationary equipment such as compressors, which would reduce construction noise by as much as five dBA. The general contractor would locate stationary equipment in pit areas or excavated areas as these areas would serve as noise barriers.

- The project sponsor would require that the construction contractor predrill holes for piles, in order to minimize noise and vibration from pile driving. The actual pounding from pile driving would occur during a five- to eight-minute span per mile. The project sponsor has agreed to restrict pile driving to hours required by the Department of Public Works.

- The project sponsor would require that the construction contractor limit pile driving activity to result in the least disturbance to neighboring uses. This would require a work permit from the Director of Public Works pursuant to the San Francisco Noise Ordinance Section 2907(c).

HOUSING

Measures Proposed to be Included in the Project

- The project sponsor would mitigate the net housing demand of 167 units generated by the project pursuant to the City's Office Affordable Housing Production Program (OAHPP).[1] The sponsor has a carryover of three units from housing credits obtained in connection with Van Ness Plaza, for which preliminary approval has been received. The project sponsor would fulfill the remaining 164 housing unit requirement either by direct sponsorship of a housing development, by provision of financial aid to a housing development, by direct payment to the City or by a combination of all these methods, as provided in the OAHPP.

HAZARDS

Measures Proposed to be Included in the Project

* An evacuation and emergency response plan would be developed by the project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to ensure coordination between the City's emergency planning activities and the project's plan, and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by buillding management insofar as feasible before issuance of final building permits by the Department of Public Works.

ARCHITECTURAL AND HISTORIC RESOURCES

Measures Proposed to be Included in the Project

o The sponsor would retain the services of an archaeologist. The Environmental Review Officer (ERO) in consultation with the President of the Landmarks Preservation Advisory Board (LPAB) and the archaeologist would determine whether the archaelogist should instruct all excavation and foundation crews on the project site of the potential for discovery of cultural and historic artifacts, and the procedures to be followed if such artifacts are uncovered.

Given the strong possibility of encountering the remains of cultural or historic artifacts within the project site, prior to the commencement of foundation excavations, the project sponsor would undertake a program of archaeological testing. This would consist of observation and monitoring by a qualified historical archaeologist of site clearance of at least any materials below existing grade level, and a series of no more than ten mechanically excavated trenches be dug within the parameters of the project site.

An historical archaeologist would be present during site excavation and would record observations in a permanent log. The ERO would also require cooperation of the project sponsor in assisting such further investigations on site as may be appropriate prior to or during project excavation, even if this results in a delay in excavation activities.

In addition, a program of on-site construction monitoring by a qualified historical archaeologist, designed to allow for the recovery of a representative sample of the cultural materials existing on the site, would be implemented by the project sponsor. This monitoring and recovery program would result in a written report to be submitted to the ERO, with a copy to the project sponsor.

Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist (and/or maritime expert (IF APPLICABLE)) would assess the significance of the find, and immediately report to the ERO and the President of the LPAB. Upon receiving the advice of the consultants and the LPAB, the ERO would recommend specific mitigation measures, if necessary. Excavation or construction activities following the preconstruction archaeological testing program which might damage the discovered cultural resources would be suspended for a maximum of four weeks (cumulatively for all instances that the ERO has required a delay in excavation or construction) to permit inspection, recommendation and retrieval, if appropriate.

Following site clearance, an appropriate security program would be implemented to prevent looting. Any discovered cultural artifacts assessed as significant by the archaeologist upon concurrence by the ERO and the President of the LPAB would be placed in a repository designated for such materials. Copies of the reports prepared according to these mitigation measures would be sent to the California Archaeological Site Survey Office at Sonoma State University.

GEOLOGY/TOPOGRAPHY

Measures Proposed to be Included in the Project

- A detailed foundation and structural design study would be conducted by a California-licensed structural engineer and a geotechnical consultant. The project sponsor would follow the recommendations of these studies during the final design and construction of the project.

- If dewatering were necessary, any groundwater pumped from the site would be retained in a holding tank to allow suspended particles to settle, if this is found necessary by the Industrial Waste Division of the Department of Public Works, to reduce the amount of sediment entering the stormdrain/sewer lines.

- Should dewatering be necessary, the final soils report would address the potential settlement and subsidence impacts of this dewatering. Based upon this discussion, the soils report would contain a determination as to whether or not a lateral and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Public Works would require that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring. Groundwater observation wells would be installed to monitor the level of the water table and other instruments would be used to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable subsidence were to occur during construction, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service under the street would be borne by the project sponsor.

- During excavation, shoring and bracing would be used to reduce soil movements beneath nearby structures and adjacent streets. The excavation would be kept dry by sump pumping rather than through the use of dewatering wells. This would prevent consolidation of soils supporting adjacent streets and nearby structures and would avoid exposing nearby wooden foundations to dry rot.

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[1]The Office Affordable Housing Production Program (OAHPP), Ordinance 358-85, was passed by the Board of Supervisors July 8, 1985. It was signed by the Mayor July 19, 1985 and its effective date is August 18, 1985. The OAHPP requires developments to provide housing at a ratio of 0.386 units per 1,000 gross square feet of net new office space.

VI. UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL EFFECTS

This chapter identifies impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the proposed project, or other mitigation measures that could be implemented, as described in Chapter V. Mitigation Measures, pages 138 to 148.

The following unavoidable significant environmental impacts resulting from the proposed project have been identified. The final determination of significant impacts will be made by the City Planning Commission as part of their certification action. Chapter VI will be revised, if necessary, to reflect the City Planning Commission's findings, before printing of the Final Environmental Impact Report.

Cumulative development in Downtown San Francisco and nearby areas would have a significant effect on the environment in that it would generate cumulative traffic increases as well as cumulative passenger loadings on Muni, BART and other regional transit carriers. These cumulative transportation impacts could cause violations to total suspended particulate (TSP) and localized carbon monoxide (CO) standards in San Francisco with concomitant health effects and reduced visibility. The proposed project would contribute to these cumulative effects.

VII. ALTERNATIVES

This chapter consists of possible alternatives to the proposed project. For each alternative, the environmental impacts of the alternative as well as the environmental impacts of the proposed project to be avoided are identified. Finally, the project sponsor's reason for not selecting the identified alternative is provided. Despite the project sponsor's reason for rejecting an alternative project, the City Planning Commission could approve an alternative project if it determines that the alternative is a more appropriate use of the site.

The following six alternatives are considered: A. No-Project Alternative; B. City Planning Code; C. Preservation of Existing Firestone Building Plus New Office Space and Housing Replacement; D. Mixed-Use Alternative; E. Smaller and Lower Project; and F. Larger Project Including City Builders Site. The characteristics of each alternative are summarized in Table 19, page 151.

A. ALTERNATIVE ONE: NO-PROJECT ALTERNATIVE

DESCRIPTION

This alternative would involve no change to the project site as it now exists. The structures and parking area located on Lots 5, 6 and 8 of Assessor's Block 3512 between Mission Street and Otis Street and on Lots 1, 33, 36a and 40 at the intersection of Mission Street and South Van Ness Avenue would remain as they are indefinitely. No demolition would occur and the Firestone building that is now currently occupied would continue to be so.

IMPACTS

If the No-Project Alternative were implemented, none of the impacts associated with the proposed project would occur. The existing transportation and air quality conditions

TABLE 19

ALTERNATIVE COMPARISON TABLE

Type of Space	Proposed Project	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Office (gsf)	431,949	--	431,949	238,296	323,676	276,665	442,159
Retail (gsf)	32,786	5,000	32,786	43,760	32,786	32,786	34,259
Housing (units)	--	--	--	26	102	--	--
Open Space (gsf)							
Public	10,021	--	10,021	9,841	10,021	10,021	18,696
Tenant	17,839	--	17,839	14,462	17,839	17,839	17,839
Parking (spaces)							
Self-Park	--	175	--	--	--	--	--
Valet-Style	519	--	671[1]	417	519	519	905
Floor Area Ratio	5.4:1	0.2:1	5.4:1	3.3:1	4.1:1	3.6:1	5.5:1

[1] 223 additional spaces would be provided offsite within 800'.

SOURCE: EIP Associates.

would continue as they are. Occupancy in public off-street parking garages and lots in the vicinity would continue to be about 74%. The peak transit level of service on Mission Street and surrounding streets would remain unchanged. Noise, air pollution and energy consumption would not change although they may be affected by cumulative impacts associated with planned development in the project area. There would be no impacts on urban design, architectural and historic resources. The "No Project" Alternative would not result in the demolition of a building rated "3" in the 1976 Architectural Inventory and, thus, would have no impact on architectural or historic resources. There would be no new employment generated. This alternative would not contribute to growth inducement in areas surrounding the project site, or to cumulative impacts on downtown transportation demand and regional air quality. The two vacant buildings on the Building II project site would remain so and the existing limited use of the entire project site, compared to the allowable development potential under the existing City Planning Code, would continue to offer an incentive for redvelopment of the project site.

REASONS FOR REJECTION

The project sponsor has rejected this alternative since it meets none of the sponsor's objectives outlined in Chapter II, page 10. These objectives include revitalizing the South Van Ness area, providing large floor office space that the sponsor believes would be attractive to major corporations and government agencies, providing a distinctive gateway to the Van Ness corridor and realizing a reasonable return on investment.

B. ALTERNATIVE TWO: PROJECT COMPLYING WITH EXISTING CITY PLANNING CODE

DESCRIPTION

This alternative would consist of a project directly complying with the City Planning Code and not requiring Conditional Use authorization for a Planned Unit Development in order to provide less parking than the required amount.

This project would be essentially the same as the proposed project with an additional basement level of parking. The project would visually look the same as the proposed project including the same general heights, bulk measurements and facade materials. Total constructed area of the project would increase by 38%, primarily due to an increase

in the parking area. The amount of gross square feet of office space, retail space and open space would remain the same at 431,949 gsf, 32,786 gsf and 27,860 gsf, respectively. Additional underground parking would be constructed under the east wing of Building III, containing a total of 787 spaces in combination with those under the west wing of Building III, increasing the number of on-site parking spaces from 519 to 889. The five additional spaces needed to satisfy the total parking requirement (of 894 spaces) would be provided in parking facilities within 800 feet of the site. Section 159 of the City Planning Code contains regulations applicable to off-site parking.

The FAR for the alternative would be 5.4:1, the same as in the proposed project. There would be five off-street loading docks, the same as in the proposed project.

IMPACTS

Impacts associated with an intensification of land uses, visual quality and urban design, architectural and historical resources, non-traffic transportation, air quality, housing and growth-inducing impacts of this alternative would be the same as for the proposed project. The increase in on-site parking would increase the severity of peak-hour traffic impacts on intersections in the project area, although due to the capacity of these intersections it is not anticipated that the additional peak-hour traffic from the parking garages would cause additional degradation in the Level of Service at any of the intersections. Demand generated by uses in this alternative would be 377-spaces, the same as in the proposed project. The 894 spaces in the alternative would exceed demand by 517 spaces and, in conjunction with the loss of the 175-space on-site lot, provide a net new surplus of 342 spaces, reducing the occupancy rate in public garages and lots in the area from 74% to 53%. Accommodation of the additional parking level under Building III would require 38% more excavating causing an increase in the duration of the construction noise impacts generated by excavation equipment. Additional excavation could increase the potential for impacts on cultural resources.

REASONS FOR REJECTION

The project sponsor would consider this alternative if deemed necessary by the City Planning Commission or if required to meet demand from prospective major tenants.

C. ALTERNATIVE THREE: PRESERVATION OF EXISTING FIRESTONE BUILDING PLUS NEW OFFICE SPACE AND HOUSING REPLACEMENT

DESCRIPTION

In this alternative, the existing buildings on the project site would be preserved where feasible and converted to office, retail and housing uses. There would be new construction on the existing parking lot for office and retail uses (see Figure 28, page **155**). In total, this alternative would involve 238,296 gsf of office space (193,653 gsf less than the proposed project), 43,760 gsf of retail space (10,974 gsf more than the proposed project) and 26 housing units (10,150 gsf). In particular, the Leslie Leasing building would be preserved and rehabilitated to contain 21,000 gsf of office space. The Evergreen Hotel, would be demolished and a structure of similar size would be constructed on the site containing 2,000 gsf of ground floor retail space and 26 residential hotel units. The Firestone Tire Shop building would be retained and rehabilitated for retail use containing a total of 14,400 gsf of retail space. The west wing of Building III would be built, as in the proposed project, containing 217,296 gsf of office space and 27,129 gsf of retail space. The FAR for this alternative would be 3.3:1 compared to 5.4:1 for the proposed project.

This alternative would include 417 parking spaces under the west wing of Building III, 149 spaces less than required, requiring Conditional Use authorization for a Planned Unit Development, a variance from the Code or provision of additional required parking within 800 feet of the project.

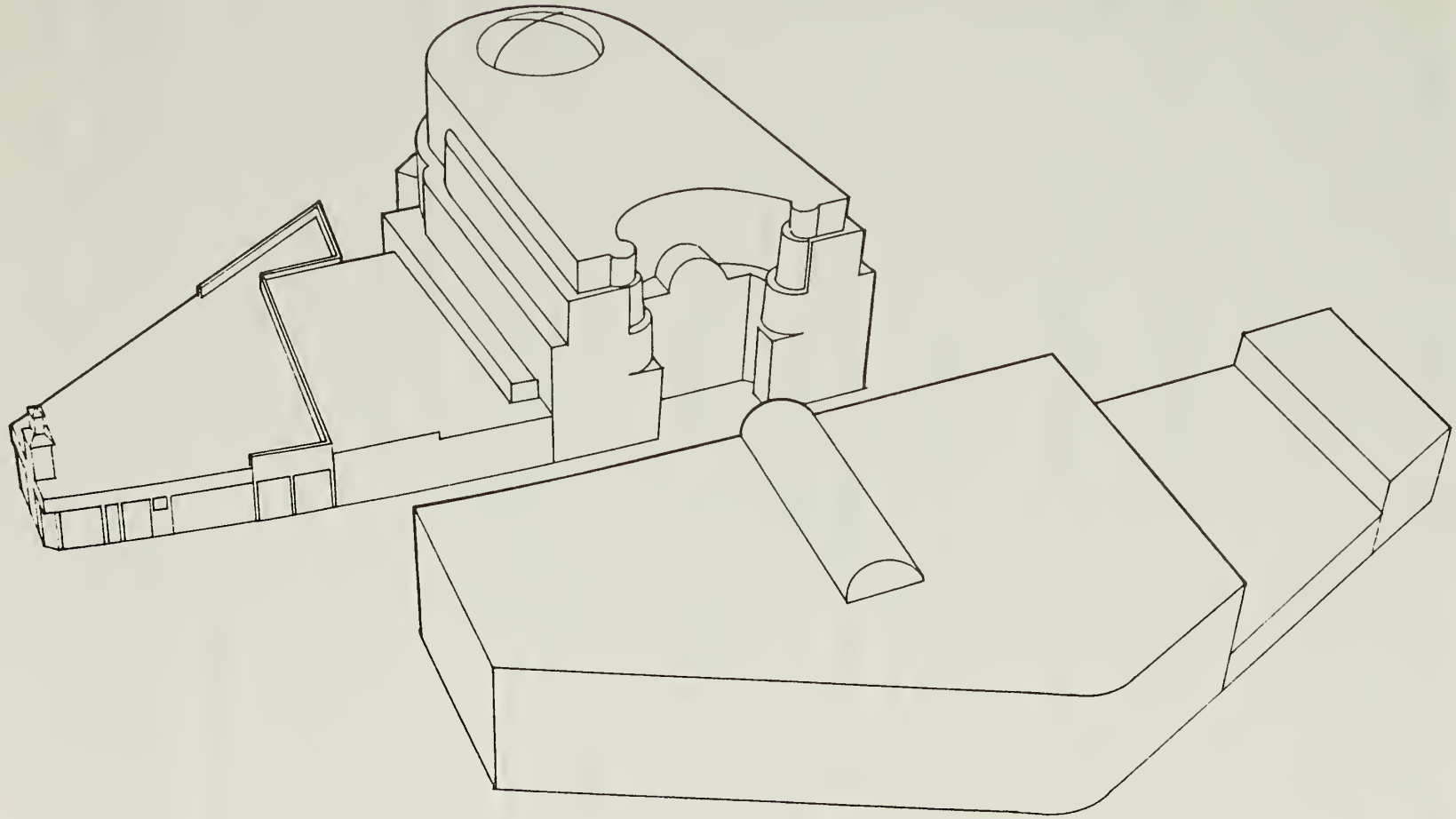
IMPACTS

Impacts associated with an intensification of land uses would be 40% less than the proposed project, in proportion to the decrease in overall gross floor area. The urban design impacts of the proposed project would be decreased by the smaller scale of this alternative, and the maintenance of the existing Firestone Tire Shop building in the Van Ness Avenue view corridor. This alternative would also not have impacts on architectural and historic resources since the rated Firestone building would be preserved and rehabilitated, rather than demolished as in the proposed project.

There would be 10,877 total daily person trip-ends generated by this alternative compared to 12,736 for the proposed project. Transportation impacts from decreased travel demand

ALTERNATIVE 3: ARCHITECT'S RENDERING

FIGURE 28



SOURCE: HELLER/LEAKE ARCHITECTS

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on the site would be 15% less for this alternative than for the proposed project. Trip generation would decrease a smaller percentage than overall floor area because the increase in retail space, a high trip generation use, partially offsets the decrease in office space. The decrease in project travel would not affect impacts on Levels of Service at adjacent major intersections due to cumulative demand, since the alternative is only 1.3 percent of the cumulative total. Parking provided under this alternative would be 417 valet-style spaces, 102 less than provided under the proposed project. Estimated parking demand would be 244 spaces, 133 less than the proposed project. With the removal of the 175-space on-site parking lot, the projected deficit would be two spaces. Occupancy in off-street parking in the project area would increase from 74% to 80%, compared to an increase from 74% to 84% with the proposed project.

Air quality impacts would be about 15% less than for the proposed project due to reductions in travel generated by the alternative.

Compared to the proposed project, the total number of jobs created by the project generated both directly and through job inducement, would decrease from 3,502 to 1,984. On-site construction related employment would decrease from 245 to 154. Under the Office Affordable Housing Production Program, this alternative would generate a demand for 92 units, 75 less than for the proposed project.

Due to decreased construction on the Building II and III sites, duration of construction noise impacts would be approximately 40% less than for the proposed project in proportion to the decreased overall floor area. In particular, residents north of Otis Street, who would be impacted the most by construction on the Building II site, would benefit from the decreased impact. This alternative would require pile driving on the Building III site for construction of the west wing, but the total number of piles driven would be decreased, and thus the length of time of noise impacts from pile driving, since none would be required on the sites of Building II and the east wing of Building III.

REASONS FOR REJECTION

The project sponsor has rejected this alternative because it meets none of the sponsor's stated objectives. In particular, rehabilitation and reconstruction of the buildings on the

Building II site do not conform to the sponsor's objective of creating the type of back office spaces attractive to major corporations and government agencies and would restrict the provision of large floorplates. In the opinion of the project sponsor, preservation of the Firestone Tire Shop building would interfere with the sponsor's attempt to provide an architecturally distinctive gateway anchor for the Van Ness corridor and would not be financially feasible.

D. ALTERNATIVE FOUR: MIXED USE ALTERNATIVE

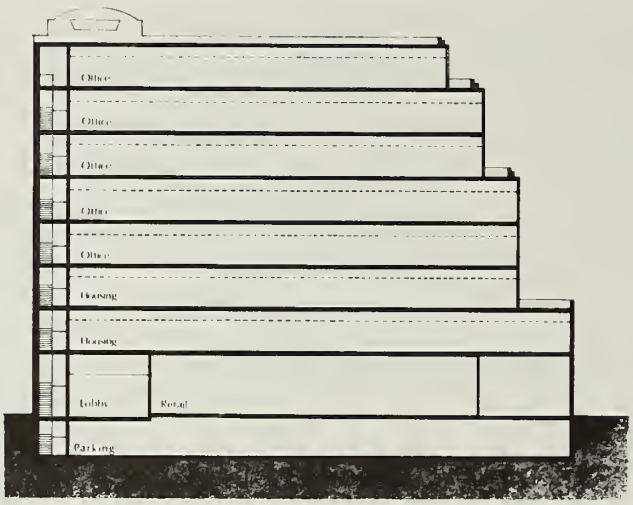
DESCRIPTION

This alternative would include provision of market-rate residential units in each building of the project, relating to the Downtown Plan implementing action calling for study of this area for potential rezoning to moderate-high density residential uses.[1] This alternative would contain a total of 323,676 gsf of office space (108,273 gsf, 25% less than the proposed project), 33,786 gsf of ground floor retail space (the same as the proposed project), 102 housing units and 519 valet-style parking spaces. Each building in the development would contain a mix of uses (see Figure 29, page 158). Building II would contain 70,840 gsf of office space on levels 4 through 8 and 28 housing units on levels 2 and 3. The west wing of Building III would contain a total of 167,980 gsf of office space on levels 2 through 6, 27,360 gsf of retail space on the ground level and 40 housing units on levels 7 and 8. The east wing of Building III would contain a total of 84,856 gsf of office space on levels 1, 4 through 8, and 34 housing units on levels 2 and 3 and a rooftop penthouse. This alternative would have a requirement of 759 off-street parking spaces. The parking configuration for the alternative would be the same as in the proposed project. This alternative provides for 519 valet-style parking spaces, the same as in the proposed project, and would require Conditional Use authorization for a Planned Unit Development to provide 240 fewer parking spaces than required under the City Planning Code. The project sponsor would comply with the provisions of the Residential Hotel Demolition and Conversion Ordinance by providing 26 replacement units, equal to the number demolished in the Evergreen Hotel. These units would not be built on-site. The FAR for this alternative would be 4.1:1 compared to 5.4:1 for the proposed project.

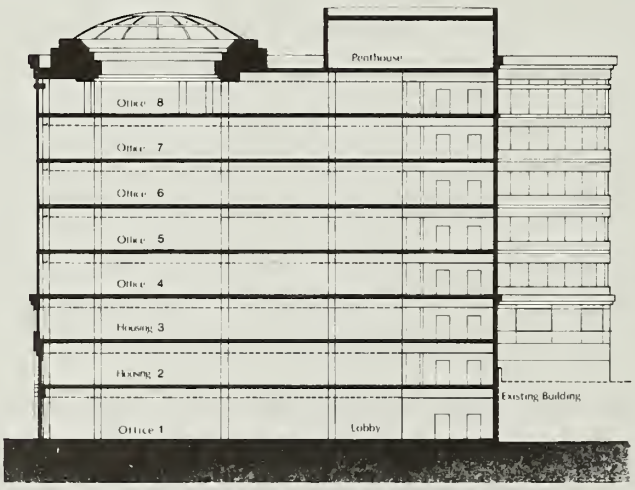
The design features, including facade treatment and materials would remain unchanged from the proposed project, emphasizing a mixture of granite and green-tinted glass, with large rounded edge features consistent with the civic buildings north of Market Street.

ALTERNATIVE 4: SECTIONS

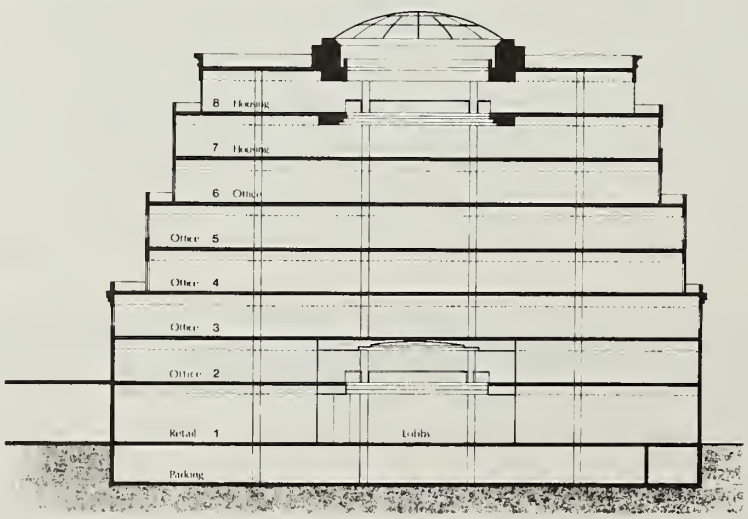
FIGURE 29



BUILDING II
SECTION A-A



BUILDING III (EAST WING)
SECTION B-B



BUILDING III (WEST WING)
SECTION A-A

SOURCE: HELLER/LEAKE ARCHITECTS

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IMPACTS

Impacts associated with an intensification of land uses would decrease under this alternative in proportion to the 24% decrease in office and retail space since housing, which would replace commercial space, is considered a "lower intensity" use than office or retail. The alternative, like the proposed project, would have growth inducing impacts due to the increased intensity of uses on the project site, although to a lesser degree than the proposed project. Impacts on urban design would be the same as in the proposed project since the design, height and scale of the exterior of the buildings would be the same as described for the proposed project. Impacts on architectural and historic resources would be the same as in the proposed project due to demolition of the Firestone Tire Shop building.

There would be 11,484 total daily person trip-ends generated by this alternative. Transportation impacts of this alternative would be 9.3% less than the proposed project, in proportion to the decrease in travel demand associated with the change in use from office to housing. Level of service at intersections in the project area would continue to decline with cumulative development, as with the proposed project.

The estimated parking demand of 396 spaces would be 19 spaces more than the demand generated by the proposed project. The alternative would provide 52 spaces less than the demand it would generate in conjunction with the loss of the existing lot. With the removal of the existing on-site parking lot and the projected deficit of 52 spaces, off-street parking occupancy in the project vicinity would increase from 74% to 85%, compared to an increase in occupancy from 74% to 84% spaces for the proposed project. The City Planning Code would require 759 spaces for this alternative, 135 less than for the proposed projects. The alternative would require a variance for providing 240 spaces less than the required amount or provision of additional required spaces within 800 feet of the proposed project.

Total number of jobs, both direct and indirectly generated, would decrease from 3,502 in the proposed project to 2,574 in this alternative. On-site construction related employment would decrease from 245 jobs in the proposed project to 195 jobs in this alternative. The alternative would have a housing requirement of 125 units under OAHPP,

42 less than for the proposed project. Part of this would be met with the 102 housing units on the site. The remaining requirement for 23 units would be met off-site by one of the methods permitted under OAHPP.

Air quality impacts would be about 9.3% less than for the proposed project due to reduction in travel. Construction noise impacts would be the same as in the proposed project.

REASONS FOR REJECTION

The sponsor has rejected this alternative because he believes that it would not represent the best use of the project site and that the mix of housing with large floor, back office and retail uses would not be appropriate.

E. ALTERNATIVE FIVE: SMALLER AND LOWER PROJECT

DESCRIPTION

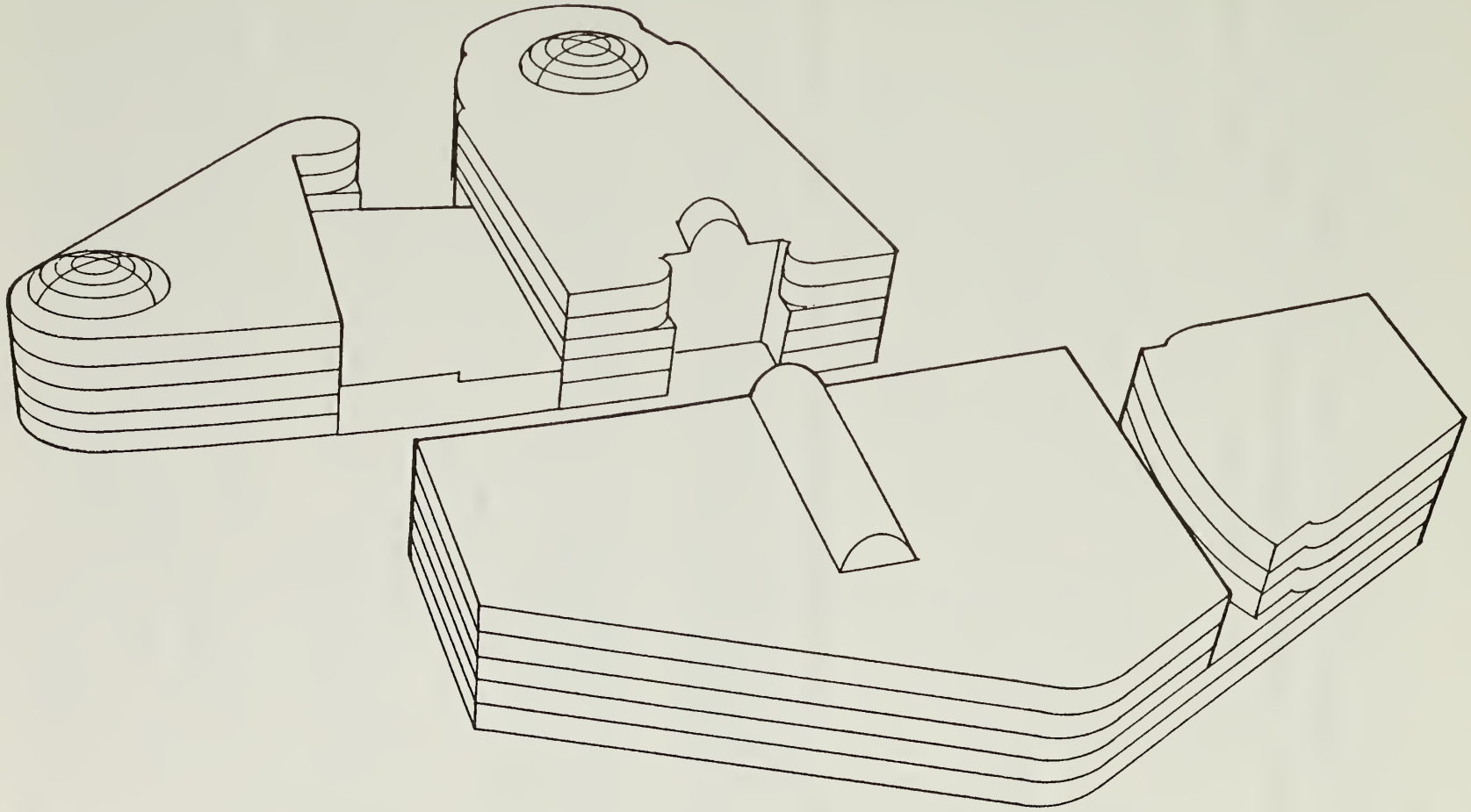
This alternative entails a project similar to but smaller than the proposed project, corresponding in height to the existing Van Ness Plaza building (see Figure 30, page 161). Each of the buildings would be built to 5 stories (66½ feet), each 3 stories (38½ feet) shorter than in the proposed project. In total, this alternative would contain 276,665 gsf of office space (155,284 gsf less than the proposed project) and 32,786 gsf of retail space (the same as the proposed project). The FAR for this alternative would be 3.6:1 compared to 5.4:1 for the proposed project. The same amount of parking and open space would be provided in this alternative as in the proposed project.

This alternative would require Conditional Use authorization for a Planned Unit Development to provide 296 fewer off-street parking spaces than required by the City Planning Code. The project sponsor would comply with the provisions of the Residential Hotel Demolition and Conversion Ordinance by providing 26 replacement units, equal to the number demolished in the Evergreen Hotel. These units would not be built on-site.

Although the height of the alternative would be decreased compared to the proposed projects, other design features, including facade treatment and materials would be the same as in the proposed project.

ALTERNATIVE 5: ARCHITECT'S RENDERING

FIGURE 30



SOURCE: HELLER/LEAKE ARCHITECTS

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IMPACTS

This alternative would be 35% smaller than the proposed project, resulting in a proportional decrease in impacts associated with an intensification of land uses. Since the heights of this alternative would conform to the height of the existing Van Ness Plaza building, the alternative would have less impact on building scale in the project vicinity than the proposed project. However, buildings in this alternative would continue to be higher and bulkier than the prevailing scale of older development in the project area. The alternative, like the proposed project, would result in demolition of all existing buildings on the project site and would, thus, have the same impacts on architectural and historic resources as the proposed project. The project would continue to act as an inducement to future growth in the project vicinity.

There would be a total of 9,817 total daily person trip-ends generated by this alternative. Transportation impacts associated with increased travel demand would be 23% less than in the proposed project, proportional to the decrease in overall travel demand associated with the alternative. Despite this decrease in travel demand, impacts at adjacent intersections associated with cumulative downtown development would not differ from the proposed project, since the decrease would be too small to measure.

The parking requirement would be for 573 off-street parking spaces. This alternative would provide 519 parking spaces, the same as the proposed project. Estimated parking demand would be 258 spaces 32% less than the estimated project parking demand. Alternative Five parking demand could be accommodated within the alternative's parking and would include a surplus of 261 spaces. In conjuction with the removal of the 175-space on-site parking lot, occupancy in the off-street parking in the project vicinity would remain the same at 74% (due to the on-site surplus) compared to the increase from 74% to 84% with the proposed project.

Employment generated by the alternative, both direct and indirect, would decrease from 3,502 jobs in the proposed project to 2,220 jobs in this alternative. On-site construction related employment would decrease, with this alternative, from 245 jobs in the proposed project to 174 jobs. Under the Office Affordable Housing Production Program, this alternative would generate a requirement for 107 housing units, 60 fewer than the 167 required for the proposed project.

Air quality impacts from this alternative would be about 23% less than for the proposed project due to reduction in travel associated with the alternative. Construction noise impacts would be the same intensity (pile driving would still be required) but the duration would be about 35% less than for the project in proportion with the decrease in overall gross floor area constructed.

REASONS FOR REJECTION

This alternative has been rejected by the project sponsor since the decreased height of the alternative would not be consistent with the sponsor's objective to create a visually distinctive gateway anchor for the Van Ness corridor. In addition, the sponsor believes that the decreased overall floor area limits his ability to offer the appropriate amounts of large floor area office space attractive to major corporations desiring back-office space and government agencies.

F. ALTERNATIVE SIX: LARGER PROJECT INCLUDING CITY BUILDERS SITE

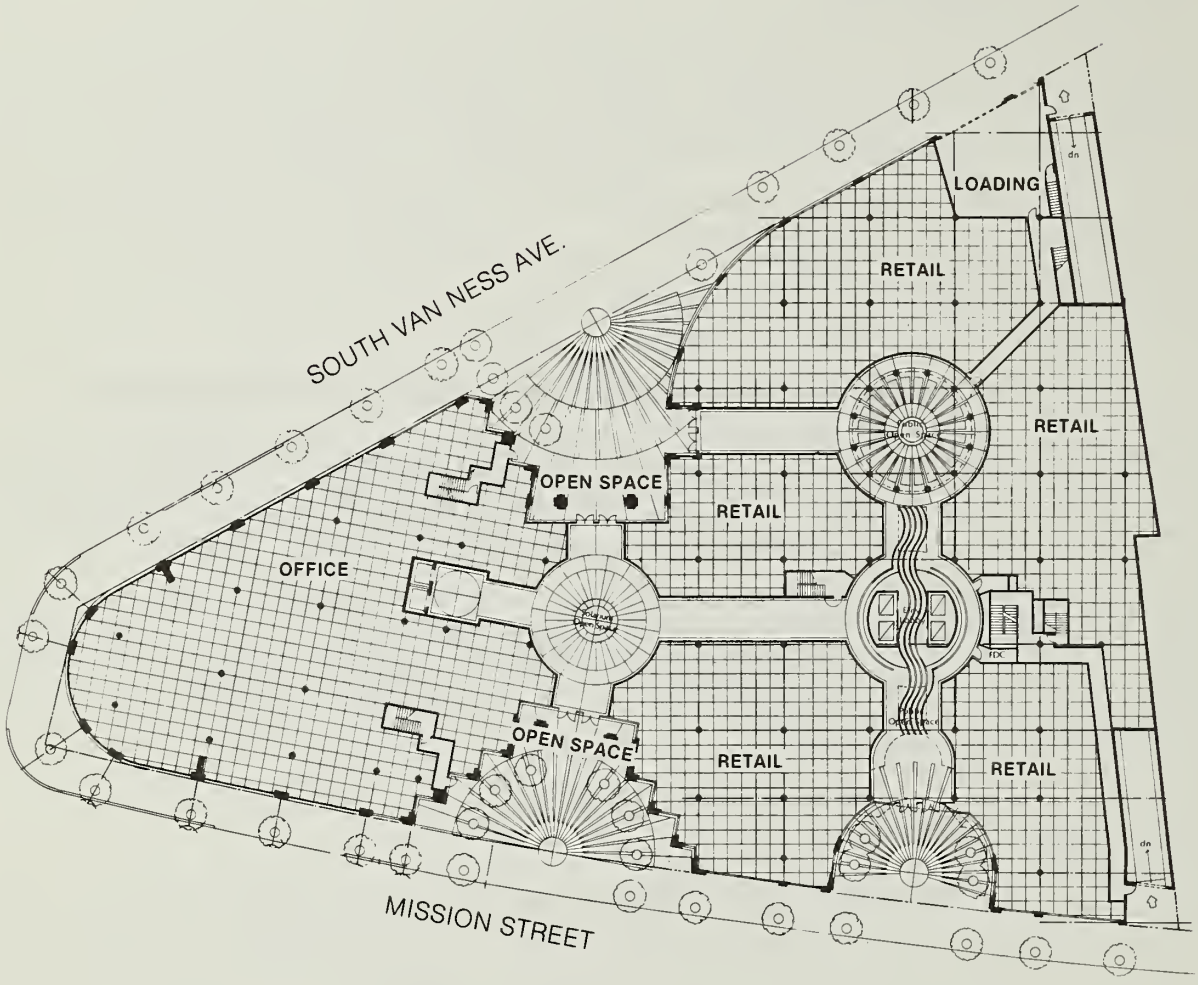
This alternative would consist of a project similar to the proposed project but including development of lots 35 and 36 on Assessor's Block 3514, currently the site of City Builders Supply hardware and lumber store. This alternative is included in order to assess the impacts of possible future acquisition of the additional site for the proposed project. Such acquisition could occur prior to or subsequent to project approval. If this alternative became feasible as a result of negotiations with the owners, the project sponsor would seek approval of this alternative.

DESCRIPTION

This alternative would be similar in design but larger than the proposed project, with more parking (see Figures 31 and 32, pages 164 and 165). Lots 35 and 36 would be used for expansion of Building III or for a separate connector building, including office and retail uses, plus additional basement level parking (see Figure 31, page 164). The alternative would look essentially the same as the proposed project with the same building heights, bulk and facade materials. The building on the City Builders Supply site would be 40 feet high, below the 40-foot threshold for bulk measurements. Facade materials on this section would be the same as in the rest of the buildings. Total constructed area of this

ALTERNATIVE 6: GROUND LEVEL FLOOR PLAN

FIGURE 31



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SOURCE: HELLER / LEAKE ARCHITECTS

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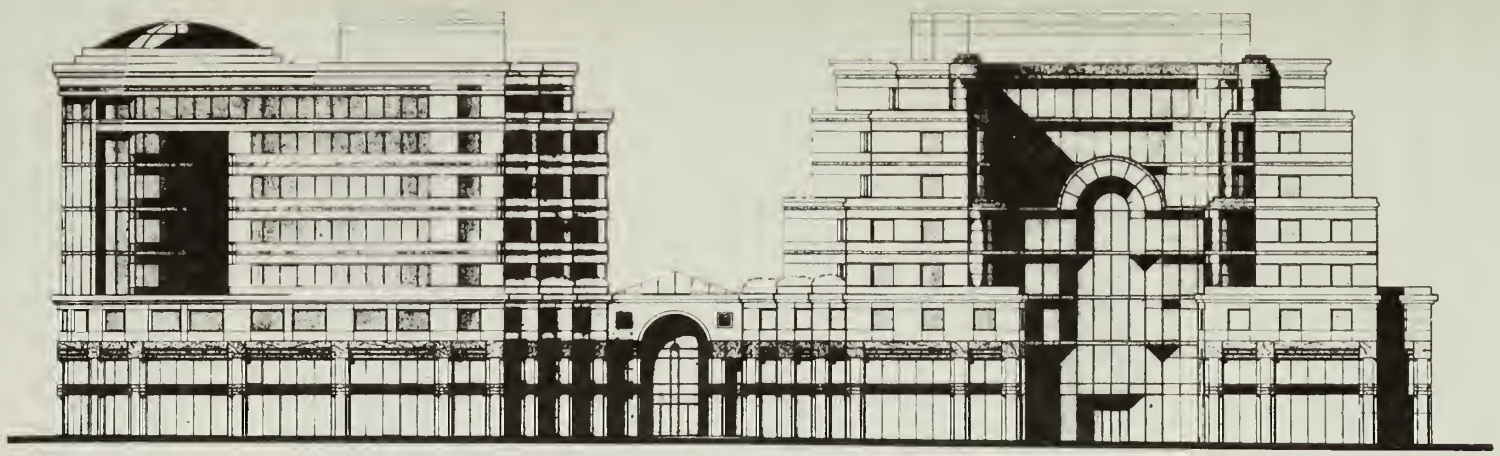
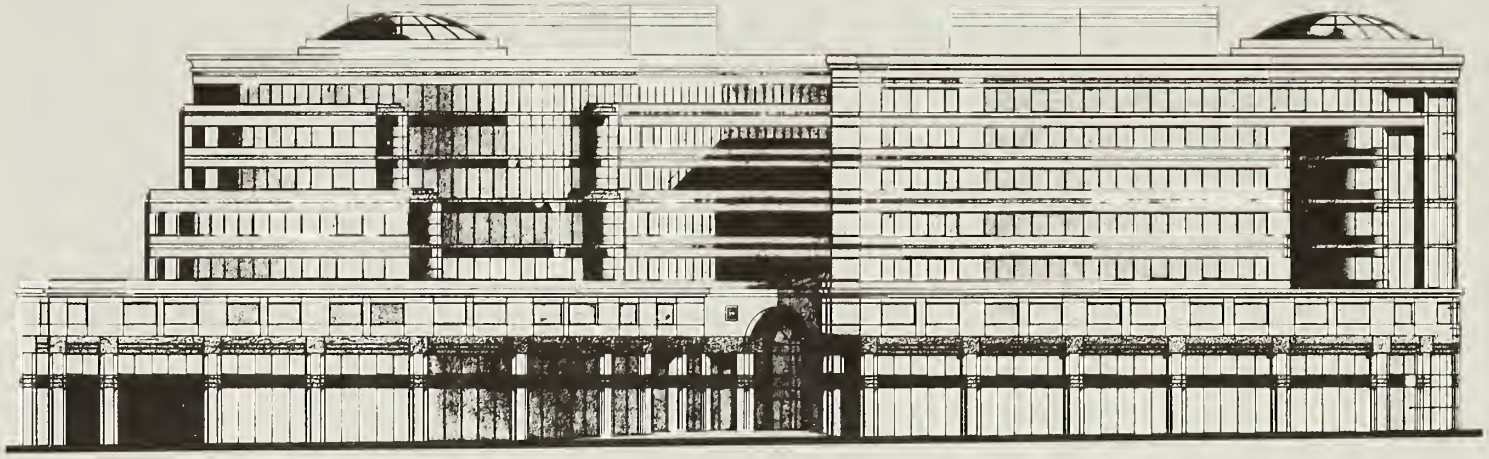
ALTERNATIVE 6: ELEVATIONS

FIGURE 32



MISSION STREET ELEVATION



SOUTH VAN NESS AVENUE ELEVATION

SOURCE: HELLER / LEAKE ARCHITECTS

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alternative would be 11.6 percent larger than the proposed project. This alternative would include 442,159 gsf of office space (10,210 gsf or 2.4 percent more than the proposed project), 34,259 gsf of retail space (1,473 gsf or 4.5 percent more than the proposed project), 167,850 gsf of parking space (52,155 gsf or 45 percent more than the proposed project), 17,839 gsf of tenant open space (the same as in the proposed project) and 18,696 gsf of public open space (8,855 gsf or 90 percent more than the proposed project). The parking area in this alternative would contain up to a total of 905 valet-style parking spaces, 386 more than in the proposed project.

The FAR for this alternative would be 5.5:1 compared to 5.4:1 for the proposed project. There would be five off-street loading docks, the same as in the proposed project, one more than required by the City Planning Code requirement.

IMPACTS

1. Land Use

Impacts associated with an intensification of land uses would be slightly greater for this alternative than for the proposed project, due to the 2.5% increase in commercial gross floor area and the replacement of the two-story City Builders Supply hardware store by the additional space.

2. Urban Design

The urban design impacts of this alternative would be similar to those described for the proposed project since the height and bulk characteristics and facade materials and design of the alternative would be the same as in the proposed project. Demolition of the City Builders Supply building and expansion of Building III would create greater continuity of design.

3. Architectural Resources

Impacts on architectural resources would be the same as in the project due to demolition of all existing buildings on the project site. The City Builders Supply building, to be demolished in this alternative, has not been rated by the City or by Heritage.

4. Transportation

a. Project Travel

This alternative would result in a net increase of 13,142 daily person trips (compared to 12,736 for the project) and 1,065 p.m. peak-hour outbound person trips (1,021 for the project), an increase of 3.1% in daily travel and 4.3% p.m. peak-hour travel as compared to the proposed project.

b. Traffic

The alternative would generate about 309 peak-period vehicle trips, 9 trips more than the proposed project. As with the proposed project, traffic increases generated by the alternative at nearby intersections would result in degradation in the Level of Service at the at the Mission/Duboce intersection from "D" to "E". The Level of Service at the 13th/South Van Ness and Mission/South Van Ness intersections would remain at "C" as in the proposed project. Although the Level of Service would be the same as with the proposed project, the existing plus project volume-to-capacity ratio at the 13th/South Van Ness intersection would increase from 0.73 with the project to 0.76 with this alternative and at the Mission/South Van Ness intersection from 0.74 with the project to 0.75 with this alternative. The existing plus project volume-to-capacity ratio at the Mission/Duboce intersection would remain the same as with the project at 0.90. Increases in freeway volumes would not be perceptibly different than for the proposed project.

c. Transit

Projected future Muni ridership due to cumulative development would increase by about 365 peak-hour trips under this alternative, the same as for the proposed project. Peak-hour ridership on other regional transit services would be the same for the proposed project or about 1.3% of expected cumulative development.

d. Parking

The alternative would require 905 spaces, 11 spaces more than the proposed project.

This alternative would include 905 valet-style (630 self-park) spaces, 386 more spaces than the proposed project.

Project-generated parking demand would be for 387 spaces. There would be a net surplus of parking spaces of 343 spaces created by this alternative (including elimination of the 175-space existing lot) compared to a 33 space deficit for the proposed project. The area parking supply (within public off-street parking garages and lots) would be about 71% higher with the alternative compared to an increase of 59% with the proposed project. Occupancy in public off-street parking garages and lots would decrease from 74% to 65% with this alternative, as compared to increase from 74% to 84% with the proposed project.

The alternative would generate a demand for four off-street loading spaces and would provide five spaces in the same configuration as the project.

e. Pedestrian Flows

Peak-hour pedestrian flows generated by the alternative would increase proportionately with the 3.1% increase in overall travel. Pedestrian flows on Mission Street would be unimpeded, the same as in the proposed project.

f. Construction

The alternative's construction-related transportation impacts would not be measureably different than those predicted for the proposed project.

5. Air Quality

a. Local Carbon Monoxide (CO) Impacts

Although motor vehicle traffic generated by the alternative would be more than in the proposed project, the increase would not be large enough to produce a measurable difference between CO concentrations predicted for the proposed project and those for this alternative.

b. Regional Air Quality

Emissions of NO_X and HC generated by this alternative would be about 4% more than the amounts shown in Table 13, page 108, for the proposed project. This would not produce an increase in ozone concentrations that would be large enough to accurately measure or

model. As in the proposed project, in conjunction with other projects, project-generated emissions would not lead to an increase in total Bay Area ozone concentrations.

The alternative, like the proposed project, would not conflict with the objectives of the 1982 Bay Area Air Quality Plan.

6. Construction Noise

The levels of noise generated by individual construction activities, such as foundation construction, including pile driving and building erection, would be about the same as the proposed project.

7. Energy

Construction of this alternative would require about the same amount of energy in the form of gasoline, electricity and diesel fuel as the proposed project.

Estimates of the likely energy consumption of this alternative have been made based upon comparisons with other projects in San Francisco and assuming compliance with Title 24, by the energy budget method. Impacts of the proposed project would be approximately 3% less than this alternative.

8. Employment, Residence Patterns and Housing

The alternative, when fully occupied, would provide 1,754 permanent jobs for office and, retail functions, including 1,749 net new permanent jobs, and would create from 1,839 to 6,810 additional Bay Area jobs through the multiplier effect. The alternative would generate 42 more direct jobs and from 44 to 166 more jobs through other sections of the Bay Area economy than the proposed project.

Construction activities are expected to take about 24 months and, based on construction costs that would be greater than the proposed project, would generate 250 direct and 388 indirect construction jobs.

This alternative would generate a demand for 171 housing units, 4 more than the proposed project under the City's Office Affordable Housing Production Program. Cumulatively, the additional office space included in the alternative would constitute a 2.2% increase, compared with 2.1% for the proposed project, over the 21.7 million square feet projected for the C-3 districts under the Downtown Plan.

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[1] San Francisco Department of City Planning, The Downtown Plan, an Element of the Master Plan, November 29, 1984, page 42.

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Glendale, CA 91201

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Speyer & Schwartz
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San Francisco, CA 94132

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San Francisco, CA 94105

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Office of Real Estate Services
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Sacramento, Ca 95825

APPENDIX A

Final Initial Study

DEPARTMENT OF CITY PLANNING

450 McALLISTER STREET • SAN FRANCISCO, CALIFORNIA 94102

NOTICE THAT AN ENVIRONMENTAL IMPACT REPORT IS DETERMINED TO BE REQUIRED

Date of this Notice: May 3, 1985

Lead Agency: City and County of San Francisco, Department of City Planning
450 McAllister Street - 5th Floor, San Francisco, CA 94102

Agency Contact Person: Catherine Siegel Telephone: (415) 558-5261

Project Title: 84.448E: Van Ness Gateway Center

Project Sponsor: Deringer Development Group

Project Contact Person: Richard Deringer

Project Address: 1660-1666, 1668, 1601, 1641 Mission Street and 140 So. Van Ness Avenue

Assessor's Block(s) and Lot(s): Block 3512, Lots 5,6,8; Block 3514, Lots 1, 33, 36a, 40

City and County: San Francisco

Project Description:
Construct a mixed-use office/retail center in three buildings adjoining the completed Van Ness Plaza. The project would contain 426,647 gross square feet of offices, 39,956 gsf of retail, 17,823 gsf of open space and a total of 277 parking spaces.

THIS PROJECT MAY HAVE A SIGNIFICANT EFFECT ON THE ENVIRONMENT AND AN ENVIRONMENTAL IMPACT REPORT IS REQUIRED. This determination is based upon the criteria of the Guidelines of the State Secretary for Resources, Sections 15063 (Initial Study), 15064 (Determining Significant Effect), and 15065 (Mandatory Findings of Significance), and the following reasons, as documented in the Environmental Evaluation (Initial Study) for the project, which is attached.

Deadline for Filing of an Appeal of this Determination to the City Planning Commission: May 13, 1985.

An appeal requires: 1) a letter specifying the grounds for the appeal, and;
2) a $35.00 filing fee.

Alec S. Bash

ALEC S. BASH, Environmental Review Officer

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3362A

ER5 4/84

VAN NESS GATEWAY CENTER

INITIAL STUDY

84.448E

I. PROJECT DESCRIPTION

The proposed Van Ness Gateway Center project would contain office and retail commercial uses and first-floor and basement level parking. The project is proposed to be constructed in three phases on Assessor's Block 3512, lots 5, 6 and 8, and Assessor's Block 3514, lots 1, 33, 36a and 40. Phase I (82.14E), located on AB 3512, lot 8, is nearly complete and will be occupied in August 1985. The buildings to be described in this document are considered the final two phases of the Van Ness Gateway Center project. The project is located north of the Central Skyway on both sides of Mission Street, fronting on Otis Street and South Van Ness Avenue (Figures 1, 2 and 3, pages 2, 4 and 5). It is in a C-M (Heavy Commercial) district and a 105-J Height and Bulk district. Permitted floor area ratio (FAR) is 9:1.

Total area of the Van Ness Gateway Center site, including all phases, would be 121,951 square feet, with a total of 78,239 square feet containing the site area for the proposed Phases II, III-A and III-B. Site area for each project phase, and for the adjacent Phases I and II, and III-A and III-B, is summarized in Table 1, page 3.

In Phases II, III-A and III-B, the project sponsor, Deringer Development Group, proposed to construct a total of 426,647 gross square feet (gsf) of office space, 39,956 gsf of retail space, 17,823 gsf of open space and 73,031 gsf of parking space, containing a total of 277 parking spaces. All three phases would rise to the maximum 105 feet. Phases II and III-B, containing below grade parking, would be excavated to 10 feet.

Phase II would contain 98,561 gsf of office space, 4,836 gsf of retail space, 3,758 gsf of open space and 102 parking spaces. Alone, Phase II would have a FAR of 5.6:1; in combination with the adjacent Phase I building, the FAR would be 4.55:1. Phase III-A and Phase III-B, together, would contain 328,086 gsf of office space, 35,120 gsf of retail space, 14,069 gsf of open space and 175 parking spaces, and would have a FAR of 6.0:1. Phases I, II, III-A and III-B together would have a FAR of 5.3:1; excluding ground level the

SITE LOCATION MAP

FIGURE 1

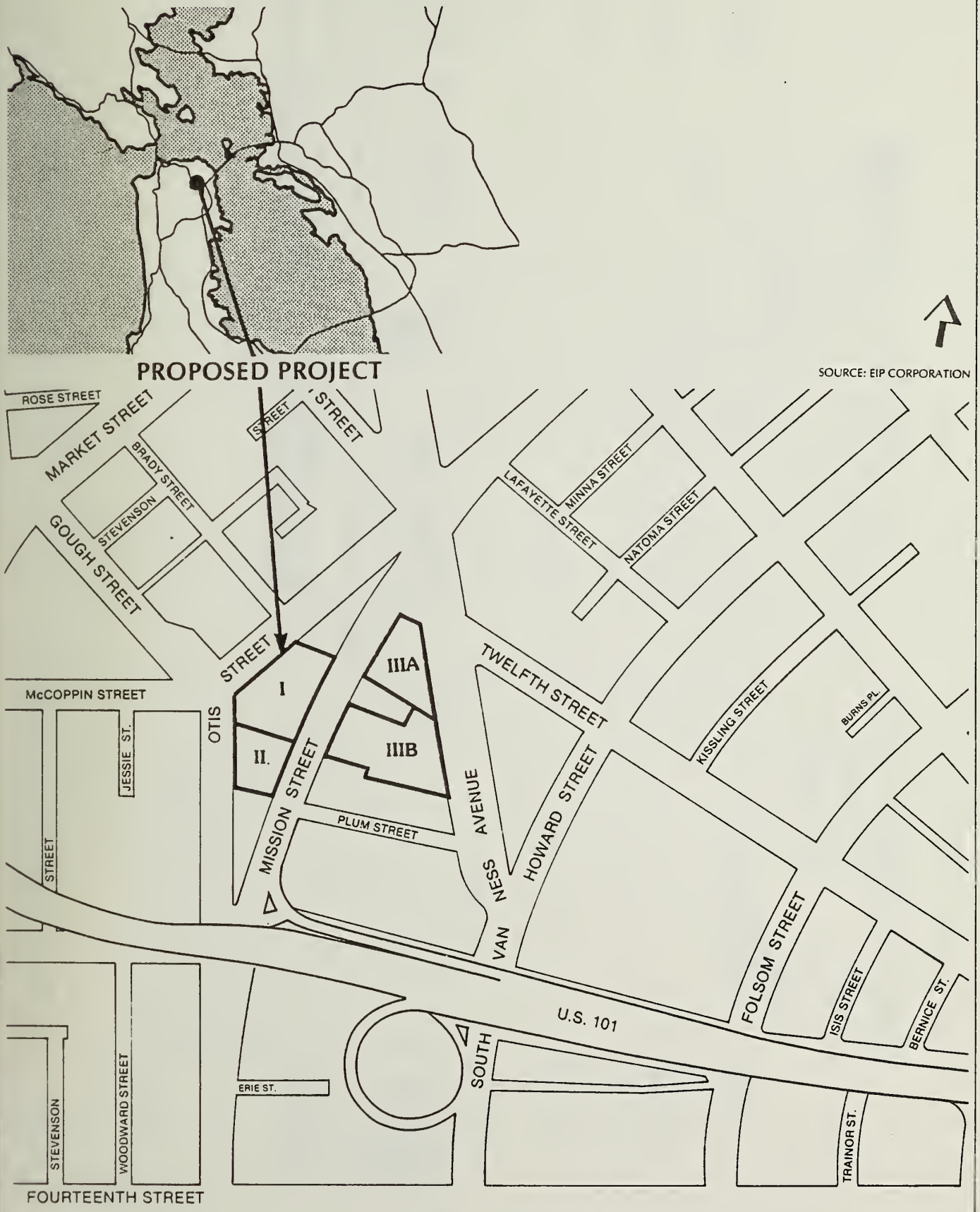


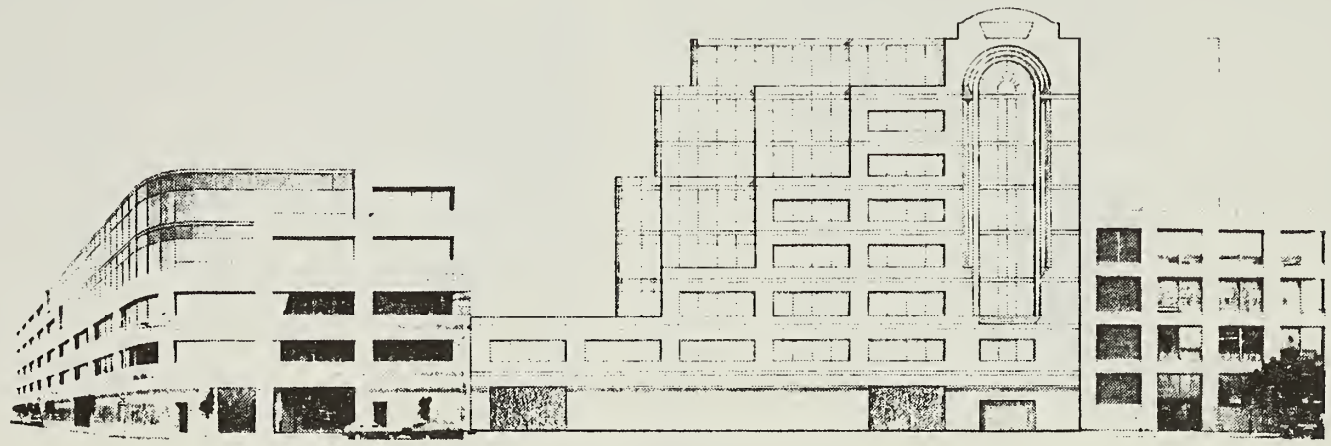
TABLE 1

FLOOR AREA SUMMARY

Phase	Block/Lot	Site Area	Gross Floor Area (gsf)				Parking (Spaces)	FAR
			Office	Retail	Open			
					Tenant	Public		
Phase I (completed)	3512/8	43,712	163,609	14,970	1,500	0	28,742 (120)	4.0:1
Phase II	3512/5,6	18,326	98,561	4,836	3,758	0	28,078 (102)	5.6:1
Phase III-A	3514/1, 36a	14,960	114,596	0	0	0	0 (0)	7.6:1
Phase III-B	3514/33,40	44,953	213,490	35,120	4,620	9,445	44,953 (175)	5.5:1
Total		121,951	590,256	54,926	9,878	9,445	101,773 (397)	5.3:1
Phases I & II	3512/5, 5, 8	62,038	262,170	19,806	5,258	0	56,820 (222)	4.5:1
Phases III-A & III-B	3514/1, 33, 36a, 40	59,913	328,086	35,120	4,620	9,445	44,953 (175)	6.0:1
Phases II, III-A & III-B	3512/5, 6 3514/1, 33, 36a, 40	78,239	426,647	39,956	8,378	9,445	73,031 (277)	5.9:1

PHASE II: STREET ELEVATIONS

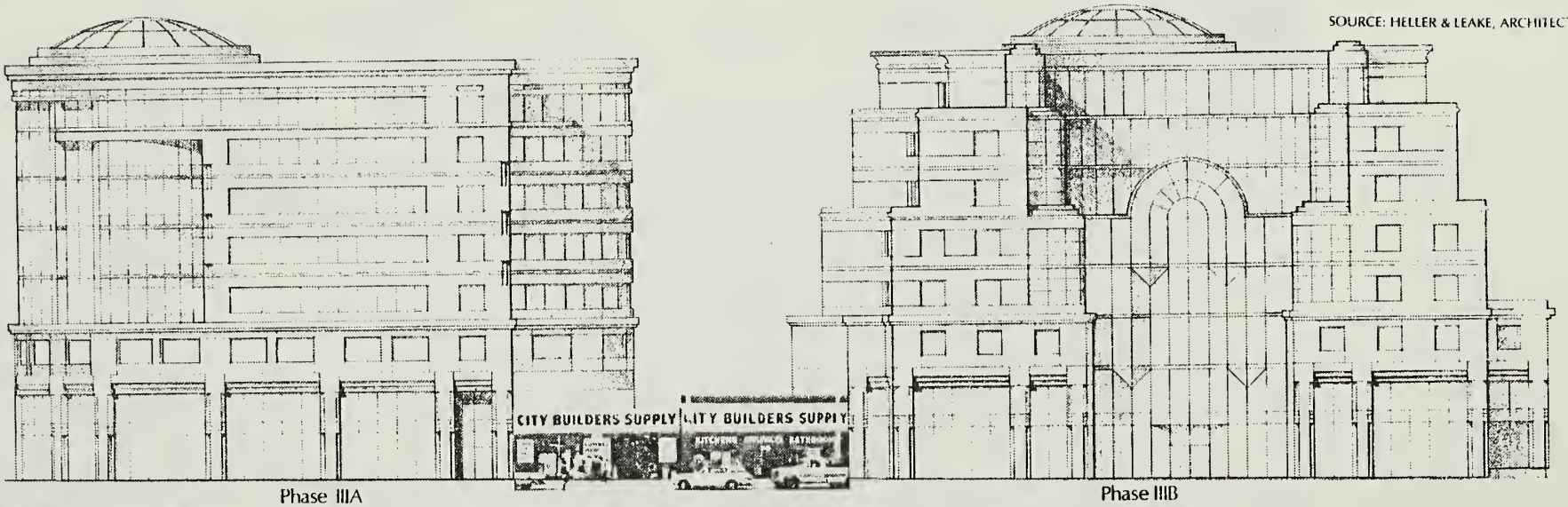
FIGURE 2



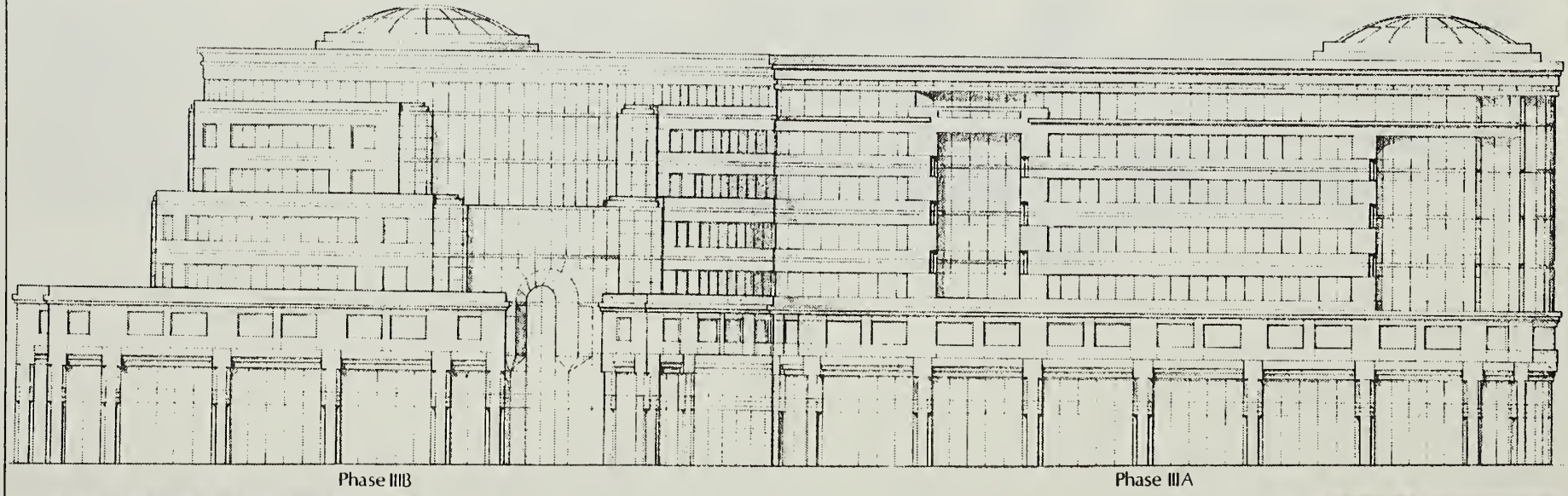
PHASE III-A/III-B: STREET ELEVATIONS

FIGURE 3

SOURCE: HELLER & LEAKE, ARCHITECTS



MISSION STREET ELEVATIONS



SOUTH VAN NESS AVENUE ELEVATIONS

FAR would be 4.8:1. Table 1 summarizes the gross floor area and FARs in each phase of the project and in the combined adjacent phases.

The project would have phased construction, beginning with Phase III-A, then Phase III-B and ending with Phase II. Construction of all three phases would be completed in approximately 60 months.

The project architects are Heller/Leake Architects.

II. SUMMARY OF POTENTIAL EFFECTS

A. SIGNIFICANT EFFECTS

Some of the effects that would be generated by the proposed project could be potentially significant. Impacts that require further analysis in an EIR are:

- Impacts of the project on the existing land use pattern in the project vicinity and the project's relationship to the Downtown Plan's proposal for a study of the South Van Ness area for potential rezoning to moderately high-density residential use.
- The relationship of the project's height and bulk to other development in the project vicinity and to the objectives and policies of the Urban Design Element of the Comprehensive Plan.
- Impacts of reflective glare from the buildings on automobiles on the Skyway.
- The effects of demolition of a vacant existing residential hotel.
- Construction generated, project specific and cumulative impacts on transportation.
- Impacts of construction noise on nearby businesses and residential uses.
- Traffic generated air quality impacts.
- Impacts on architectural resources related to the demolition of an architecturally rated building.

B. INSIGNIFICANT EFFECTS

Some environmental effects would either be insignificant or would be mitigated through measures incorporated into the project design to insignificant levels. These require no further environmental analysis and will not be addressed further in the EIR.

Visual Quality: The proposed project would not generate any light impacts on other properties.

Population: The proposed project would not include any residential uses and would not demolish any occupied housing units or displace any people.

Noise: The project would not be affected by ambient noise levels due to the inclusion of noise insulation features in the project design. Project operation, including traffic generated by the project, would not significantly increase the ambient noise levels in the project vicinity.

Air Quality/Climate: Construction of the proposed project would not create objectionable odors, nor would it involve burning of any materials. Project operation would not violate any ambient air quality standards, expose any sensitive receptors to air pollutants, or create any objectionable odors. The proposed project would not generate significant wind impacts at pedestrian levels. The proposed project would not generate significant shadow impacts.

Biology: The proposed project would not affect a rare or endangered species or habitats, and would not interfere with any resident or migratory species.

Geology/Topography: Pile-driving would be required. A geo-technical report would be prepared by a California-licensed soils engineer. Building construction would conform to the recommendations of that report.

Water: The proposed project would not affect water quality or other water resources.

Hazards: The proposed project would not be affected by hazardous uses or health hazards in the area, nor would there be a potential for health hazards. An evacuation and emergency response plan would be developed by the project sponsor as part of the project.

Utilities/Public Services: Increased demand for public services and utilities attributable to the proposed project would not require additional personnel or equipment and would be too small to make a noticeable contribution to cumulative service needs.

Energy: The project would be constructed to conform with the energy requirements of Title 24. It would not encourage activities that would result in the wasteful use of energy or have a substantial effect on a natural resource.

Cultural: There is limited potential for archaeological finds within the project area. Because the project site is beyond the old San Francisco shoreline, the potential for encountering cultural resources during construction would also be limited. The project sponsor has included a mitigation measure addressing this improbable impact.

III. ENVIRONMENTAL SETTING

A. COMPATIBILITY WITH EXISTING ZONING AND PLANS

		Not Applicable	Discussed
1.	Discuss any variances, special authorizations, or changes proposed to the City Planning Code or Zoning Map, if applicable.	___	X
*2.	Discuss any conflicts with the Comprehensive Plan of the City and County of San Francisco, if applicable.	___	X
*3.	Discuss any conflicts with any other adopted environmental plans and goals of the City or Region, if applicable.	X	___

The proposed project would comply with the City Planning Code requirements concerning height, bulk and use provisions of the C-M (Heavy-Commercial) district and the 105-J Height and Bulk District in which the three proposed 8-story, 105-foot buildings would be located. However, the proposed project would require a variance to provided fewer on-site parking spaces than required in Section 151 of the City Planning Code.

The proposed project lies within the South Van Ness area proposed in the Downtown Plan for studying the potential for rezoning for moderately high-density residential use. The project could be inconsistent with the Downtown Plan's objective of expanding the supply of housing adjacent to downtown, and its' policy of facilitating the conversion of underused industrial and commercial areas to residential use. The compatibility of the

proposed project with specific goals and policies of the Comprehensive Plan will be discussed further in the EIR.

The proposed project could be inconsistent with policies of the Urban Design Element of the Comprehensive Plan relating to protection of significant views and view corridors, and the preservation of historic structures. These issues are discussed on pages 10, 11, 22 and 23 of this document and will also be analyzed in the EIR.

The proposed project would be inconsistent with policies 3.1, 3.2 and 3.3 of the Residence Element of the Comprehensive Plan, which discourage the demolition of existing housing units, restrict the conversion of housing units in commercial and industrial areas and encourage the preservation of existing residential hotel units. The proposed demolition of the existing Avon Hotel, a vacant 26-unit residential hotel is discussed on page 12 of this document.

The proposed project site is located outside of the boundaries of the South of Market Interim Controls and the Proposed Van Ness Avenue Plan, and thus no discussion of the proposed project's relation to these documents will be included in the EIR.

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*Derived from State EIR Guidelines, Appendix G, normally significant effect.

B. ENVIRONMENTAL EFFECTS

	Yes	No	Discussed
1. Land Use. Could the project:			
*a. Disrupt or divide the physical arrangement of an established community?	___	___	X
b. Have any substantial impact upon the existing character of the vicinity?	___	___	X

The proposed project site is located near the southwestern boundary of the South of Market district of San Francisco, an area which in the past has been dominated by light industrial, warehouse and auto uses but which in recent years has been the site of higher

intensity office development such as the Van Ness Plaza Phase I and Bank of America Computer Center projects.

The project site is located at the intersection of South Van Ness, Mission, Otis and 12th Streets, a major traffic and transit intersection. The intersection of Van Ness and Market Streets is located about 500 feet north of the site and the Central Freeway about 300 feet southwest. The Van Ness Plaza Phase I building lies adjacent to and across the street from the proposed project; the Civic Center is about four blocks north along Van Ness Avenue. Buildings to the north/northeast, east and south within the immediate area consist mainly of two- to four-story light industrial, warehouse and auto sales and service structures.

Phases III-A and III-B would entirely surround City Builders Supply, a hardware supply store located on Assessor's Block 3514, lots 35 and 36. Figure 3, page 5, describes the relationship of the proposed project to the existing City Builders Supply building. To the immediate south and west of the proposed project site are several municipal and State government offices, including the Department of Social Services at 150 Otis Street and the Controller's/Payroll office at the intersection of South Van Ness and Plum Street.

The proposed project, containing office and retail uses, would constitute a change in the prevailing uses on the project site and in the project area and would, contribute to change in the pattern of land uses in the surrounding area. These issues will be discussed further in the EIR.

	Yes	No	Discussed
2. Visual Quality. Could the project:			
*a. Have a substantial, demonstrable negative aesthetic effect?	___	___	X
b. Substantially degrade or obstruct any scenic view or vista now observed from public areas?	___	___	X
c. Generate obtrusive light or glare substantially impacting other properties?	___	___	X

The individual components of the proposed project would each be similar in bulk to other large structures in the project area; however, the project as a whole would be larger in mass than any of these neighboring structures. At 105-feet high, the proposed buildings would be from 70- to 80-feet higher than the buildings currently on site and about 30- to 80-feet higher than the prevailing building heights in the project vicinity, including the 70 foot high Van Ness Plaza I building and the 7-story office building, adjacent to the south of the proposed Phase III.B. Building. These issues will be discussed further in the EIR.

The proposed project would lie in the Van Ness Avenue view corridor and could block some portion of the view of Bernal Heights from Van Ness Avenue, north of the project site. This issue will be discussed further in the EIR.

Reflective glare off of the glass facade materials on the rounded southeast corner of Phase III-B could be apparent to automobiles in the skyway portion of U.S. 101. This issue will be discussed further in the EIR.

The EIR will discuss the proposed project's relationship to the Urban Design Element of the Comprehensive Plan.

3. Population. Could the project:	Yes	No	Discussed
*a. Induce substantial growth or concentration of population?	___	___	X
*b. Displace a large number of people (involving either housing or employment)?	___	___	X
c. Create a substantial demand for additional housing in San Francisco, or substantially reduce the housing supply?	___	___	X

The proposed project would not construct any residential units. The Avon Hotel, a vacant 26-unit residential hotel which has not been renovated or inhabited since a fire in 1983, would be demolished, as would the vacant Green Pine Cafe. The project sponsor would comply with the terms of the San Francisco Residential Hotel Unit Conversion or Demolition Ordinance by replacing the demolished residential units. This issue will be addressed in the EIR.

The Firestone Tire Shop at 1601 Mission, which currently employes six people would also be demolished. This issue requires no further discussion in the EIR.

The proposed project would generate a demand for housing by directly or indirectly attracting new office workers to the City. This issue will be discussed in the EIR.

4. Transportation/Circulation. Could the project:	Yes	No	Discussed
*a. Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system?	___	___	X
b. Interfere with existing transportation systems, causing substantial alterations to circulation patterns or major traffic hazards?	___	___	X
c. Cause a substantial increase in transit demand which cannot be accommodated by existing or proposed transit capacity?	___	___	X
d. Cause a substantial increase in parking demand which cannot be accommodated by existing parking facilities?	___	___	X

The proposed project could cause traffic hazards and increases in traffic, transit and parking demand. A primary effect of the proposed project would be the traffic on Mission and Otis Streets and South Van Ness Avenue, all Transit Preferential Streets, associated with entering and existing the project's two parking garages. The EIR will discuss traffic increases and movements as they relate to the operation of the street and freeway network in the project vicinity, in particular, Mission/South Van Ness/12th Street, South Van Ness/Howard/13th, and Otis/Mission/13th intersections, and the Mission/South Van Ness Skyway on/offramps. Impacts on transit operations on Mission, South Van Ness and Otis Streets will also be discussed.

The proposed project would provide parking for 277 automobiles. It would generate a demand for 302 parking spaces and would also displace the 173 space surface parking lot that currently sits on a portion of the site. The generation of parking demand greater than the number of spaces being provided on site, as well as the displacement of the surface parking lot, will be discussed in the EIR.

Cumulative impacts on traffic circulation patterns, transit, pedestrians and parking will be discussed in the EIR.

Impacts of construction traffic will also be discussed in the EIR.

5. Noise. Could the project:	Yes	No	Discussed
*a. Increase substantially the ambient noise levels for adjoining areas?	___	___	X
b. Violate Title 25 Noise Insulation Standards if applicable?	___	___	X
c. Be substantially impacted by existing noise levels?	___	___	X

Excavation and building construction would temporarily increase noise and would cause noise levels to intermittently exceed the ambient level (about 75 Ldn, the day-night average noise level according to the noise contour maps contained in the Noise Element of the General Plan) in the site vicinity. The nearest residence is about 300 feet from the proposed project site on Mission Street. The proposed project would require the driving of piles. Pole-holes would be pre-drilled and, in accordance with City policy, pile driving would be limited to the hours between 7:00 a.m. and 8:00 p.m. in order to minimize the impact of the noise generated by the pile driving on local residences. However, pile driving would still be a significant temporary noise generator. Impact tools and equipment needed for project construction would have intake and exhaust mufflers, and jackhammers would be equipped with shields or shrouds as required by Section 2907(c) of the San Francsico Noise Ordinance. The sponsor would consult with the Department of Public Works to determine means of minimizing construction noise levels. Impacts of construction noise will be discussed in the EIR.

Noise generated by building operation and project-generated traffic would not perceptibly increase the ambient noise levels after building completion. Mechanical equipment for building operation would be regulated by San Francisco Noise Ordinance 2909, which limits noise at the property line to 70 dBA from 7:00 a.m. to 10:00 p.m. and 60 dBA from 10:00 p.m. to 7:00 a.m. Traffic generated by the project would increase traffic noise

levels by less than 3 dBA, an increase not noticed by the untrained ear outside a laboratory situation. Noise due to building operations and project generated traffic will not be discussed further in the EIR.

A detailed noise analysis would be conducted by a qualified acoustical engineer to identify measures to be included in the project design to ensure an adequate indoor acoustical environment. The impact of the existing noise environment on the proposed project will not be discussed further in the EIR.

	Yes	No	Discussed
6. Air Quality/Climate. Could the project:			
*a. Violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation?	___	___	X
*b. Expose sensitive receptors to substantial pollutant concentrations?	___	X	___
c. Permeate its vicinity with objectionable odors?	___	X	___
d. Alter wind, moisture or temperature (including sun shading effects) so as to substantially affect public areas, or change the climate either in the community or region?	___	___	X

Construction activities would generate dust emission from the action of wind over exposed earth surfaces. Such emission could be reduced by about 50% by watering exposed earth surfaces at least twice a day (see page 23 of Mitigation Measures). Construction air quality impacts will not be discussed further in the EIR.

Operation of the structure would result primarily in natural gas combustion emissions from the roof top which would be insignificant because natural gas is a very clean burning fuel and has a rapid dilution rate. Project generated traffic volumes could produce increases in air pollutant concentrations at local intersections which could result in the violation of State or Federal Air Quality Standards since several intersections in the area

are currently near or in excess of those standards. These volumes of pollutants would also contribute marginally to the overall quantity of air pollutants in the Bay Area. Traffic generated air quality impacts will be discussed further in the EIR.

The project would increase shadows on streets, sidewalks and structures near the project. The project would not cast any shadows on public open spaces, including land subject to Proposition K. The closest site in the primary direction of early morning or late afternoon shadows, subject to Proposition K, is at the Hayes Valley Community Center at Laguna and Fell Streets, approximately one-half mile northwest of the project. Although shadow impact analysis was not performed for all times subject to Proposition K, it is not possible that the proposed project could cast a shadow long enough to impact the Hayes Valley Community Center. Shadow impact analysis for 10:00 a.m., 12:00 noon and 3:00 p.m. on December 21, March 21, June 21 and September 21 are on file and available for public review at the Department of City Planning, 450 McAllister Street, 5th Floor, San Francisco, California.

The proposed project would extend only a few floors above surrounding buildings and would have a complex geometry, including many rounded forms, setbacks and cutouts. It is not expected that the project would significantly affect wind accelerations at pedestrian levels.

7. Utilities/Public Services. Could the project:	Yes	No	Discussed
*a. Breach published national, state or local standards relating to solid waste or litter control?	___	X	___
*b. Extend a sewer trunk line with capacity to serve new development?	___	X	___
c. Substantially increase demand for schools, recreation or other public facilities?	___	X	___
d. Require major expansion of power, water, or communications facilities?	___	X	___

The proposed project would increase demand for and use of public services and utilities on the site, but not in excess of amounts expected and provided for in the project area. The providers of utilities and public services have been contacted and have responded that they have adequate capacity to serve the project and would not require additional personnel or equipment. Letters from these service providers are on file and available for public review at the Office of Environmental Review, 450 McAllister Street, 5th Floor, San Francisco. This issue will not be discussed further in the EIR.

	Yes	No	Discussed
8. Biology. Could the project:			
*a. Substantially affect a rare or endangered species of animal or plant, or the habitat of the species?	___	X	___
*b. Substantially diminish habitat for fish, wildlife or plants, or interfere substantially with the movement of any resident or migratory fish or wildlife species?	___	X	___
c. Require removal of substantial numbers of mature, scenic trees?	___	___	X

The proposed project site is almost completely covered by pavement for parking or existing buildings. There are no rare or endangered species of plant or animal habitats on site. There are 11 full-grown Poplar trees, a common windbreak planted species, located on lot 40 which would be removed by the proposed project. The trees, approximately 70-100 feet in height, are visible behind the Firestone Building from the Van Ness Avenue view corridor. These matters will not be discussed further in the EIR.

9. Geology/Topography. Could the project:			
*a. Expose people or structures to major geologic Hazards (slides, subsidence, erosion and liquefaction)?	___	___	X
b. Change substantially the topography of any unique geologic or physical features of the site?	___	___	X

The site is located near, but not in, a Special Geologic Study Area as designated by the Community Safety Element of the San Francisco Comprehensive Plan. The site is at about elevation +31 feet, San Francisco Datum (SFD),[1] and slopes gently (less than one percent) down to the north.[2] According to the geologic map of San Francisco[3] the site is underlain by more than 18 feet of dune sand, which is, in turn, underlain by mixed deposits of sand and clay (of the Colma Formation or of undifferentiated Quaternary deposits) and by Franciscan Assemblege bedrock at approximately -59 feet SFD. The project sponsor's geotechnical consultant, Harding Lawson Associates, will undertake detailed investigation of the site to provide information and recommendations for the following eight items:

1. The most appropriate foundation type(s) for the structure.
2. Design criteria for the recommended foundation type(s).
3. Estimates of foundation settlement.
4. Subgrade preparation for slab-on-grade floors
5. Lateral pressures for retaining walls, if appropriate.
6. Suitability of the on-site soil for use as backfill
7. Groundwater conditions.
8. Underpinning and shoring design values.

Of particular concern is the fact that the BART tunnel under Otis Street is approximately 15 feet from the property line. Underpinning and/or shoring for streets and adjacent structures would be required for the two structures which incorporate 10-foot basements. Since the water table is about ten feet below the surface dewatering would be necessary in deeper excavations.[4]

Seismic stability of the soil underlying the project site is probably moderate.[3] The site would experience "strong" groundshaking during a great earthquake (Richter magnitude 8+) on the San Andreas Fault.[5] The site is not underlain by Bay Mud or artificial fill and is not subject to potential liquifaction or subsidence hazard.[5] Removal of excavated material from the site would be necessary if excavation and standard back fill volumes did not balance. Spoils would be transported via the most direct truck route to an as yet unspecified fill site.

Mitigation measures on page 23 of this document would be applied to this project. These issues require no further discussion in the EIR.

[1]San Francisco Datum is approximately 8.6 above mean sea level.

[2]Site visit by EIP geologist, G.J. Burwasser, November 31, 1984.

[3]J. Schlocker, Geology of the San Francisco North Quadrangle, California, U.S. Geological Survey, Prof. Paper 782, U.S. Government Printing Office, Washington, D.C., 1974, plate 1, scale 1:24,000.

[4]Harding Lawson Associates, letter to Deringer Development Group, November 28, 1984, pages 2 & 3.

[5]URS/John A. Blume and Associates, San Francisco Seismic Safety Investigation, San Francisco, June 1974, Figures 3 and 5.

10. Water. Could the project:	Yes	No	Discussed
*a. Substantially degrade water quality, or contaminate a public water supply?	___	X	___
*b. Substantially degrade or deplete ground water resources, or interfere substantially with ground water recharge?	___	X	___
*c. Cause substantial flooding, erosion or siltation?	___	X	___

There is no permanent water body on the site. Only minor puddling occurs on the site during storms. The site is almost totally covered by buildings and paved parking. It produces slightly less stormwater runoff than it would if it were completely paved.[1]

The ponding indicates not only low permeability but also a groundwater table close to the surface. Construction of the proposed basement sublevel would involve excavation below the water table, and dewatering would be necessary. Groundwater seeping into the excavation would be removed through sump pumping. Because a relatively small amount of seepage would occur, there probably would be no need for deep dewatering wells. Consequently, the water table draw down would be localized at the construction pit and would not be expected to produce any of the detrimental effects of wide-spread water table lowering (i.e., soil compression yielding collapse of adjacent streets or loss of support through soil compression or dry rot of wooden foundations in nearby buildings). Observation wells would be needed to monitor the drawdown of water levels and possible settlement of ground or structures nearby.

Runoff would drain into the combined City storm/sewer system and be treated prior to discharge into the Pacific Ocean. The storm/sewer system has adequate capacity to carry and treat the project site runoff. The amount of urban pollutants entering the storm/sewer system would increase with development of the project. While project-derived contaminants would not reach a measurable level, they would add to the cumulative pollutant load carried and treated by the system.[2]

The dewatering mitigation measures on page 23 of this document would be applied to this project. These issues require no further discussion in the EIR.

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[1]Site visits by EIP geologist, 1982 through 1984.

[2]Donald Birrer, Executive Director, San Francisco Clean Water Program, personal communication, November 13, 1982.

	Yes	No	Discussed
11. Energy/Natural Resources. Could the project:			
*a. Encourage activities which result in the use of large amounts of fuel, water, or energy, or use these in a wasteful manner?	___	___	X
b. Have a substantial effect on the potential use, extraction, or depletion of a natural resource?	___	___	X

An energy analysis for the project site was prepared by Environmental Impact Planning Corporation (EIP). The conclusions from this report are presented below. (A copy of the report is on file and available for public review at the Department of City Planning, 450 McAllister Street, 5th Floor, San Francisco.)

The structures would be designed and constructed to conform with the energy requirements of Title 24 of the California Administrative Code so that energy use per square foot of floor area would be less than that of most existing buildings. The project would increase consumption of non-renewable energy resources on the site. The new building would use about 7.7 million kWh of electricity and 60,600 therms of natural gas annually. This is equal to electricity use of 0.6 kWh per month and a peak daily natural gas

consumption of about 260 therms. Energy use and conservation will not be discussed further in the EIR.

	Yes	No	Discussed
12. Hazards. Could the project:			
*a. Create a potential public health hazard or involve the use, production or disposal of materials which pose a hazard to people or animal or plant populations in the area affected?	___	X	___
*b. Interfere with emergency response plans or emergency evacuation plans?	___	___	X
c. Create a potentially substantial fire hazard?	___	X	___

The project would not create a potential public hazard through the use, production or disposal of harmful materials. An evacuation and emergency response plan would be developed as part of the proposed project (see Mitigation Measures, page 22 of this document). The project's emergency plan would be coordinated with the City's emergency planning activities. The project would not create a substantial fire hazard because it would incorporate more extensive fire protection measures than most buildings in the area to comply with more stringent code standards now in effect. These issues will not be discussed further in the EIR.

13. Cultural. Could the project:			
*a. Disrupt or adversely affect a prehistoric or historic archaeological site or a property of historic or cultural significance to a community, ethnic or social group; or a paleontological site except as a part of a scientific study?	___	X	___
*b. Conflict with established recreational, educational, religious or scientific uses of the area?	___	X	___
c. Conflict with preservation of any buildings of City landmark quality?	___	___	X

The Firestone Building, located on Lot 1, Block 3514, has been rated "3" by the Department of City Planning in its 1976 Architectural Inventory. A rating of "3" or better in the DCP Inventory means that the building is included in the top 2% of San Francisco's most significant buildings. This issue will be discussed further in the EIR.

The excavation for foundations would occur in areas with limited potential for encountering cultural resources during construction. The Leslie Leasing Building, at 1668 Mission, (AB 3512, Lot 6) has an existing 10-foot basement and thus that portion of Phase II would require no new excavation. No known archeological resources exist on or near the site. However, the project site lies within one-half mile of the Mission Marsh area that could have prehistoric or historic artifacts and is located on a portion of Mission Street which could remotely have historic remains. The project sponsor has included a mitigation measure as part of the project which addresses this potential impact (see Mitigation Measures, pages 22-23 of this document). This issue will not be discussed further in the EIR.

C. OTHER	Yes	No	Discussed
Require approval of permits from City Departments other than DCP or BBI, or from Regional, State or Federal Agencies?	___	X	___

D. MITIGATION MEASURES	Yes	No	N/A	Discussed
1. If any significant effects have been identified, are there ways to mitigate them?	___	___	___	___
2. Are all mitigation measures identified above included in the project?	___	___	___	___

MITIGATION MEASURES INCLUDED AS PART OF THE PROJECT:

1. HAZARDS

An evacuation and emergency response plan would be developed by the project sponsor or building management staff, in consultation with the Mayor's Office of Emergency Services, to ensure coordination between the City's emergency planning activities and the project's plan, and to provide for building occupants in the event of an emergency. The project's plan would be reviewed by the Office of Emergency Services and implemented by building management insofar as feasible before issuance of final building permits by the Department of Public Works.

2. ARCHITECTURAL AND HISTORIC RESOURCES

Prior to publication of the Draft Environmental Impact Report, the project sponsor shall retain an historical archaeologist (or other qualified expert) to perform archival research and site inspection to determine the potential for discovery of cultural or historic artifacts on the site. Results of this investigation, and a plan for any further investigation that may be appropriate, shall be reported to the Environmental Review Officer (ERO).

The ERO, in consultation with the Secretary to the Landmarks Preservation Advisory Board and the archaeologist, shall determine whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of cultural or historic artifacts, and the procedures to be followed if such artifacts are uncovered.

In the event of high probability of discovery of cultural or historical artifacts, the ERO may require that an archaeologist be present during site excavation and record a daily log of observations. The ERO may also require cooperation of the project sponsor in assisting such further investigations on site as may be appropriate prior to or during project excavation even if this results in a delay in excavation activities.

Should cultural or historic artifacts be found during project excavation, the archaeologist would assess the significance of the find, and immediately report to the ERO and the Secretary of the Landmarks Preservation Advisory Board.

The ERO would then recommend specific mitigation measures, if necessary, in consultation with the State Office of Historic Preservation. Excavation or construction, which might damage the discovered cultural resources, would be suspended for a maximum of four weeks to permit inspection, recommendation and retrieval, if appropriate. This maximum of four weeks shall include any other time periods for which the ERO has required a delay in excavation activities.

3. AIR QUALITY AND CLIMATE

The California Health and Safety Code requires that measures be taken to minimize dust generation by watering demolition materials and soils. An effective watering program (complete coverage twice daily) can reduce emissions by about 50%. The project sponsor would require the contractor to implement a program to water the site at least twice a day, which would reduce airborne construction dust and particulates by about 50% and reduce the likelihood of exceeding the state and federal standards.

4. GEOLOGY/TOPOGRAPHY

The project sponsor would obtain a site-specific soil report from a California-licensed geologic engineer and would construct the project in accordance with the recommendations of that report regarding foundation and structure.

Dewatering would be necessary; the final soils and foundation report will address the potential settlement and subsidence impacts of dewatering the site. Based upon this discussion, the report will contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any horizontal or vertical movement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Public Works will require that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring. If, in the judgment of the Special Inspector, unacceptable movement were to occur during dewatering, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service lines under the street would be borne by the contractor.

During excavation, shoring and bracing would be used to reduce soil movements beneath nearby structures and adjacent streets. The excavation would be kept dry by sump pumping rather than through the use of dewatering wells. This would prevent consolidation of soils supporting adjacent streets and nearby structures and would avoid exposing nearby wooden foundations to dry rot.

E. MANDATORY FINDINGS OF SIGNIFICANCE	Yes	No	Discussed
1. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	___	X	___
2. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals?	___	X	___
3. Does the project have possible environmental effects which are individually limited, but cumulatively considerable? (Analyze in the light of past projects, other current projects, and probable future projects.)	X	___	X
4. Would the project cause substantial adverse effects on human beings, either directly or indirectly?	___	X	___
5. Is there a serious public controversy concerning the possible environmental effect of the project?	___	X	___

Cumulative development could have an effect on the environment in that it would generate cumulative traffic increases.

F. ON THE BASIS OF THIS INITIAL STUDY:

___ I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared by the Department of City Planning.

___ I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because the mitigation measures, numbers __, in the discussion have been included as part of the proposed project. A NEGATIVE DECLARATION will be prepared.

_X_ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

Alec S. Bash
Environmental
Review Officer

for

Dean L. Macris
Director of Planning

Date: 5/1/85

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Landmarks Preservation Advisory Board

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Harold, Dorothy & Leon Cohn

The James H. Barry Co.

Leon & Trudy Cohn

S.J. Kawa, Pacific Telephone Real Estate

State of California, Office of Real Estate Services

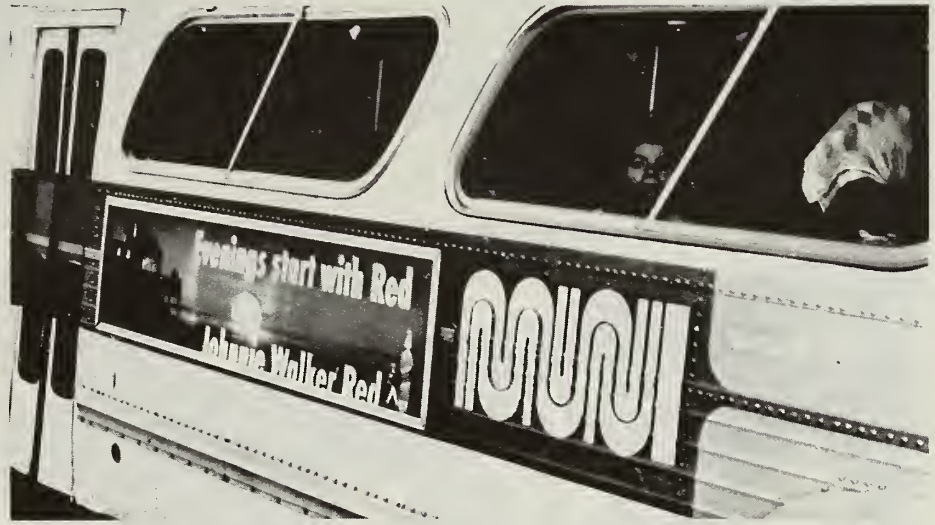
TABLE B-1 PASSENGER LEVELS OF SERVICE ON BUS TRANSIT

Level of Service	Description	Passengers per Seat
A	Level of Service A describes a condition of excellent passenger comfort. Passenger loadings are low with less than half the seats filled. There is little or no restriction on passenger maneuverability. Passenger loading times do not affect scheduled operation.	0.00-0.50
B	Level of Service B is in the range of passenger comfort with moderate passenger loadings. Passengers still have reasonable freedom of movement on the transit vehicle. Passenger loading times do not affect scheduled operations.	0.51-0.75
C	Level of Service C is still in the zone of passenger comfort, but loadings approach seated capacity and passenger maneuverability on the transit vehicle is beginning to be restricted. Relatively satisfactory operating schedules are still obtained as passenger loading times are not excessive.	0.76-1.00
D	Level of Service D approaches uncomfortable passenger conditions with tolerable numbers of standees. Passengers have restricted freedom to move about on the transit vehicle. Conditions can be tolerated for short periods of time. Passenger loadings begin to affect schedule adherence as the restricted freedom of movement for passengers requires longer loading times.	1.01-1.25
E	Level of Service E passenger loadings approach manufacturers' recommended maximums and passenger comfort is at low levels. Freedom to move about is substantially diminished. Passenger loading times increase as mobility of passengers on the transit vehicle decreases. Scheduled operation is difficult to maintain at this level. Bunching of buses tends to occur which can rapidly cause operations to deteriorate.	1.26-1.50
F	Level of Service F describes crush loadings. Passenger comfort and maneuverability is extremely poor. Crush loadings lead to deterioration of scheduled operations through substantially increased loading times.	1.51 1.60

SOURCE: Environmental Science Associates, Inc. from information in the Interim Materials on Highway Capacity, Transportation Research Circular 212, pp. 73-113, Transportation Research Board, 1980.

K INGLESIDE - VAN NESS STATION
Wednesday, September 9, 1981 - 8:00 A.M. - Inbound

N JUDAH - VAN NESS STATION
Wednesday, September 16, 1981 - 5:00 P.M. Outbound



38 GEARY - VAN NESS AVE. AND O'FARRELL ST.
Wednesday, October 21, 1981 - 9:00 A.M. - Inbound

38 GEARY - VAN NESS AVE. AND GEARY BLVD.
Wednesday, October 21, 1981 - 4:20 P.M. - Outbound

SOURCE: ESA

FIGURE B-1:
PHOTOS OF PEAK MUNI LOADING CONDITIONS

M OCEAN VIEW - CIVIC CENTER STATION
Wednesday, September 9, 1981 - 8:20 A.M. - Inbound

L TARAVAL - VAN NESS STATION
Wednesday, September 16, 1981 - 4:50 P.M. - Outbound

14 MISSION - MISSION STREET AND SOUTH VAN NESS AVE.
Tuesday, September 29, 1981 - 5:45 P.M. - Outbound

N JUDAH - DUBOCE AND CHURCH
Wednesday, June 8, 1983 - 8:00 A.M. Inbound

SOURCE: ESA

FIGURE B-1 (CONTINUED):
PHOTOS OF PEAK MUNI LOADING CONDITIONS

30X MARINA EXPRESS - BAYSHORE AVE. AND ARIETA AVE.
Wednesday, October 7, 1981 - 8:00 A.M. - Inbound

J CHURCH - CHURCH ST. AND DUBOCE AVE.
Tuesday, September 29, 1981 - 9:00 A.M. - Inbound

SOURCE: ESA

FIGURE B-1 (CONTINUED):
PHOTOS OF PEAK MUNI LOADING CONDITIONS

PEDESTRIAN ANALYSIS

The pedestrian analysis has been conducted following methods developed by Pushkarev and Zupan in Urban Space for Pedestrians (MIT Press, 1975). Table B-2 shows the relationship between pedestrian flow rates and the flow regimes (categories) used to describe levels of operation. Figure B-2 shows photographs of pedestrian conditions that correspond to the flow regimes.

TABLE B-2: PEDESTRIAN FLOW REGIMEN

FLOW REGIME/a/	CHOICE	CONFLICTS	FLOW RATE (p/f/m)/b/
Open	Free Selection	None	less than 0.5
Unimpeded	Some Selection	Minor	0.5 to 2.0
Impeded	Some Selection	High Indirect Interaction	2.1 to 6.0
Constrained	Some Restriction	Multiple	6.1 to 10.0
Crowded	Restricted	High Probability	10.1 to 14.0
	Design Limit - Upper Limit of Desirable Flow		
Congested	All Reduced	Frequent	14.1 to 18.0
Jammed	Shuffle Only	Unavoidable	Not applicable/c/

/a/ Photographs of these conditions are shown in Figure B-2.
/b/ P/F/M = Pedestrians per foot of effective sidewalk width per minute.
/c/ For Jammed Flow, the (attempted) flow rate degrades to zero at complete breakdown.

SOURCE: Urban Space for Pedestrians, MIT Press, 1975, Cambridge, MA.

The borderline between IMPEDED and UNIMPEDED FLOW, with about 130 sq ft (12 m^2) per person, or a flow rate of about 2 people per min per ft (6.5 per m) of walkway width. Individuals as well as couples visible in this view have a choice of speed and direction of movement. This rate of flow is recommended for design of outdoor walkways in office districts and other less dense parts of downtown areas.

The uneven nature of UNIMPEDED FLOW. While the people walking in the plaza which is 17 ft (5.2 m) wide, compared to 23 ft (7 m) in the preceding picture have almost 130 sq ft (12 m^2) per person on the average, the space allocation for the eight individuals in the foreground is closer to 70 sq ft (6.4 m^2). Thus, indirect interaction with others is still quite frequent in the upper range of UNIMPEDED FLOW.

The midpoint of the IMPEDED FLOW range, with about 75 sq ft (6.9 m^2) per person, or a flow rate of about 4 people per min per ft (13 per m) of walkway width. Physical conflicts are absent, but pedestrian navigation does require constant indirect interaction with others. This rate of flow is recommended as an upper limit for the design of outdoor walkways in shopping districts and other dense parts of downtown areas.

Lower range of UNIMPEDED movement, approaching OPEN FLOW. About 350 sq ft (32.2 m^2) per person, or a flow rate of less than 1 person per min per ft (3.3 per m) of walkway width. Complete freedom to select the speed and direction of movement; individuals behave quite independently of each other. For a design standard based solely on pedestrian density, this amount of space can be considered excessive.

FIGURE B-2
PHOTOS OF PEDESTRIAN FLOW LEVELS

SOURCE: Pushkarev and Zupan

JAMMED FLOW. Space per pedestrian in this view is about 3.8 sq ft (0.35 m^2). This is representative of the lower half of the speed-flow curve, where only shuffling movement is possible and even the extremely uncomfortable maximum flow rate of 25 people per min per ft (82 per m) of walkway width cannot be attained due to lack of space. Photograph by Louis B. Schlivek.

The threshold of CONGESTED FLOW. The first eleven people in the view have about 16 sq ft (1.5 m^2) per person, corresponding to a flow rate of about 15 people per min per ft (49 per m) of walkway width. The beginnings of congestion are evident in bodily conflicts affecting at least three of the walkers, and in blocked opportunities for walking at a normal pace.

The onset of CROWDED FLOW, with an average of about 24 sq ft (2.2 m^2) per person, or a flow rate of about 10 people per min per ft (33 per m) of walkway width. Choice of speed is partially restricted, the probability of conflicts is fairly high, passing is difficult. Voluntary groups of two, of which two can be seen in the picture, are maintained, but cause interference. Note also some overflow into the vehicular roadway in the background.

The midpoint of the CONSTRAINED FLOW range, with about 30 sq ft (2.8 m^2) per person, or a flow rate of about 8 people per min per ft (26 per m) of walkway width. The choice of speed is occasionally restricted, crossing and passing movements are possible, but with interference and with the likelihood of conflicts. The man in the dark suit seems to be able to cross in front of the two women in the foreground quite freely, but in the background near the curb people are having difficulty with passing maneuvers.

FIGURE B-2 (CONTINUED):
PHOTOS OF PEDESTRIAN FLOW LEVELS

SOURCE: Pushkarev and Zupan

INTERSECTION ANALYSIS

The capacity analysis of each intersection at which a turning movement count was made utilized the "critical lane" method. This method of capacity calculation is a summation of maximum conflicting approach lane volumes that gives the capacity of an intersection in vehicles per hour per lane. (This method is explained in detail in an article entitled "Intersection Capacity Measurement Through Critical Movement Summations: A Planning Tool," by Henry B. McInerney and Stephen G. Peterson, January 1971, Traffic Engineering. This method is also explained in "Interim Materials on Highway Capacity", Transportation Research Circular No. 212, Transportation Research Board, January 1980). The maximum service volume for Level of Service E was assumed as intersection capacity. A service volume is the maximum number of vehicles that can pass an intersection during a specified time period in which operating conditions are maintained corresponding to the selected and specified Level of Service (see Table B-3). For each intersection analyzed, the existing peak-hour volume was computed and a volume-to-capacity (v/c) ratio was calculated by dividing the existing volume by the capacity at Level of Service E.

TABLE B-3: VEHICULAR LEVELS OF SERVICE AT SIGNALIZED INTERSECTIONS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	less than 0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can generally be described as very good.	0.61-0.70
C	Level of Service C describes a condition where the approach to an intersection is often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71-0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operation can generally be described as fair.	0.81-0.90
E	Capacity occurs at Level of Service E. It represents the most vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles. The traffic operation can generally be described as poor.	0.91-1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01+

/a/ Capacity is defined as Level of Service E.

SOURCE: San Francisco Department of Public Works, Traffic Division, Bureau of Engineering from Highway Capacity Manual, Highway Research Board, 1965

TABLE B-4: TRAFFIC LEVELS OF SERVICE FOR FREEWAYS

Level of Service	Description	Volume/Capacity (v/c) Ratio/a/
A	Level of Service A describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions. There is little or no restriction in maneuverability due to the presence of other vehicles, and drivers can maintain their desired speeds with little or no delay.	0.00-0.60
B	Level of Service B is in the higher speed range of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation. Reductions in speed are not unreasonable, with a low probability of traffic flow being restricted.	0.61-0.70
C	Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the highervolumes. Most of the drivers are restricted in their freedom to select their own speed, change lanes, or pass. A relatively satisfactory operating speed is still obtained.	0.71-0.80
D	Level of Service D approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volume and temporary restrictions to flow may cause substantial drops in operating speeds. Drivers have little freedom to maneuver, and comfort and convenience are low, but conditions can be tolerated for short periods of time.	0.81-0.90
E	Level of Service E cannot be described by speed alone, but represents operations at even lower operating speeds (typically about 30 to 35 mph) than in Level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages of momentary duration.	0.91-1.00
F	Level of Service F describes forced flow operation at low speeds (less than 30 mph), in which the freeway acts as storage for queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of downstream congestion. In the extreme, both speed and volume can drop to zero.	1.00+

/a/ Capacity is defined as Level of Service E.

SOURCE: Environmental Science Associates, Inc. from information in the Highway Capacity Manual, Special Report 87, Highway Research Board, 1965.

APPENDIX C
CUMULATIVE TRANSPORTATION IMPACT ANALYSIS IN NON-C-3 AREAS

The purpose of the Downtown Plan EIR was to analyze the impacts of C-3 District growth. Growth in areas outside the C-3 District were considered as part of the future setting or background within which the impacts of C-3 District growth were assessed.

The policies of the Downtown Plan and Alternatives would regulate development and land use change within the C-3 District. The decision being evaluated in the Downtown Plan EIR was the choice of future land use and zoning policies for the C-3 District. Therefore, the purpose of the Downtown Plan EIR was to analyze the impacts of growth in the C-3 District. Since the Downtown Plan and Alternatives would not regulate development and land use change outside the C-3 District, it was not the purpose of the Downtown Plan EIR to assess specifically the impacts of growth in other parts of the City or region.

However, expected growth in areas outside the C-3 District was included in the Downtown Plan EIR. The means of incorporating future growth outside the C-3 District was to use future citywide and regional growth as a context for evaluating C-3 District growth. As a result, citywide and regional parameters were factored into both the C-3 District forecast analysis and impact assessments, thereby indirectly providing an assessment of non-C-3 growth. The citywide and regional context consists of both areas immediately surrounding the C-3 District, such as the project area (sometimes referred to as the non-C-3 District portions of the greater downtown area), other parts of the City, and the rest of the region.

Growth in other areas was included to the extent that it affected the same transit and transportation systems, competed for the same housing supply, or in other ways affected the impact of C-3 District growth.

Non-C-3 District growth was accounted for in the following ways:

- o The forecasts of C-3 District growth incorporated local and regional factors consistent with downtown, citywide, and regional growth patterns, including growth to be expected outside the C-3 District.

- o The land use and employment impact sections identified how C-3 District policies would indirectly affect growth and development patterns in other downtown areas, other parts of the City, and in the region, thereby accounting for growth in non-C-3 areas based on different C-3 District alternatives.

- o The housing, transportation, and other impact analyses incorporated expected growth in the greater downtown area, as well as other citywide and regional growth, as relevant, to provide the future setting or background within which the impacts of C-3 District growth are assessed.

In the case of the forecasts, economic analyses were completed to translate C-3 District policies into forecasts of future C-3 District growth. This analysis considered the relationship among the C-3 District, surrounding areas of the greater downtown, the rest of San Francisco, and the rest of the Bay Area region in terms of growth potentials and the distribution of different types of economic activity. The purpose of this analysis was to develop C-3 District forecasts which reflected a realistic assessment of C-3 District growth relative to, and within the context of, the rest of the City and Bay Area region. While it was not the purpose of this analysis to develop comparable forecasts of growth in other areas of the City outside the C-3 District, expected growth in such areas were implicit in the forecasts.

In the case of land use and employment impacts, the Downtown Plan EIR illustrates how C-3 District policies can indirectly affect growth in the greater downtown area and in other City and regional areas as a result of their direct effect on growth in the C-3 District. The impacts of different C-3 District zoning policies on growth in other City and regional areas are described in the Downtown Plan EIR in terms of the direction and relative extent of changes in development patterns and activity levels. The text describes the resultant effects on the types of activities and rates of growth in other parts of San Francisco, with a focus on effects in the greater downtown area.

In the case of other impact analyses, the Downtown EIR presents a broad cumulative context for assessing the impacts of C-3 District growth. For the Downtown Plan EIR impact assessments, downtown, citywide, and regional parameters were incorporated as

relevant to provide a future context for analyzing the effects attributable to C-3 District growth. The approach recognized that the C-3 District does not exist in a vacuum and that growth would also occur in the greater downtown area and in other City and regional areas. A by-product of the analysis was cumulative impact analyses for key impacts relevant to non-C-3 areas.

Each of the impact assessments focuses on the particular aspects of the cumulative context that are the most relevant. For example, the citywide and regional context for the housing analysis is concerned with future labor force, housing, and jobs, while the transportation analysis is concerned with overall travel on the systems that would be used by C-3 District and other workers. For each type of impact, information to describe the relevant context was collected from available sources or developed as a part of the Downtown Plan EIR analysis.

The future context for growth outside the C-3 District was not usually derived by starting with downtown, citywide, or regional growth of employment and space and estimating other measures of future conditions based on that growth. For most of the assessments, this procedure was not necessary, or, as was often the case, the data and analysis did not exist that would enable conversion of growth forecasts to a consistent set of citywide and regional conditions (such as residence patterns or travel patterns). Although citywide and regional parameters were not all derived from employment or space forecasts, they were chosen or developed to be compatible with each other and reflect the same, general future context. When it was difficult to develop consistent estimates, the analysis was conservative; parameters were chosen which would have the effect of overestimating, rather than underestimating, impacts. The following subsection provides a summary explanation of the type of non-C-3 growth parameters used in the Downtown Plan EIR impact assessment methodology for transportation, the impact area for which there is the most overlap of C-3 District and non-C-3 District analysis.

Transportation

The transportation analysis in the Downtown Plan EIR has two major components--one that makes specific projections of C-3 District travel demand and another that makes non-specific estimates of non-C-3 travel demand at a series of discreet (unique) locations [the sub-regional "screenlines" or measuring points listed in Tables IV.E.2 and IV.E.3, pp.

IV.E.29 and IV.E.35 of the Downtown Plan EIR (all citations are to the Downtown Plan EIR unless otherwise noted)]. The C-3 travel estimates are built upon a comprehensive data base for the C-3 District, using the C-3 Employer/Employee surveys and the forecasts developed in the employment and residence patterns analyses. The C-3 analysis is based on total employment forecasts, not just the increment of employment growth in the C-3 District. At screenlines where it was possible to identify the non-C-3 travel component, the method of analysis used to make the non-C-3 travel forecasts involved developing growth rates for total travel based on historic data measured at the screenlines. These growth rates in total travel were applied to the non-C-3 component of all travel at the screenlines to project growth in non-C-3 travel. This non-C-3 growth was added to the C-3 District growth to provide estimates of total future travel. Since historic growth at such screenlines has been affected by historic C-3, as well as non-C-3 growth, total future travel was probably substantially overestimated.

Description of how future non-C-3 traffic growth at the U.S. 101 screenline was calculated provides an example of this procedure. In general, for each of the analysis time periods (1981-1984, 1984-1990, 1990-2000), the appropriate overall percentage increase (based on the compounding of the average growth rate for total travel for the specified number of years) was multiplied by the non-C-3 component of travel at the screenline for the base year. Sample calculations for the 1981-1984 period are shown below:

- The plot of historic (1977-1982) data showed an annual average increase in southbound traffic volumes of approximately 1% per year [J. 22].
- For the interval 1981 to 1984, the compounded growth at 1% per year would be a total increase of 3% over 1981 volumes.
- The non-C-3 component of southbound peak-period travel of U.S. 101 at the screenline was identified as 10,020 vehicles [October 17, 1984 Supplemental Materials, spreadsheet ASSIGN 2HR].
- The 1984 non-C-3 travel was calculated by multiplying the 1981 volume by the total growth rate for 1981 to 1984, e.g. 10,020 x 1.03 = 10,320 peak-period vehicles.

The above process was used in an equivalent manner for I-280, Bay Bridge and Golden Gate Bridge traffic. The growth rate used in the traffic analysis are shown in the third (last) paragraph on p. J.22.

Because of the inherent complexity of the transportation modelling process, it was not possible to separately identify the non-C-3 travel component for several of the transit carriers. Therefore, the portion of travel labeled "C-3-travel" in the Downtown Plan EIR in many cases also includes some non-C-3 travellers. As explained in Appendix J to the Downtown Plan EIR, in some cases it was not possible to separate C-3 and non-C-3 travellers reflected in the totals. (See pp. J.20-25.) When this was the case, since the Downtown Plan EIR covers various alternative growth controls for the C-3 District, C-3 travel was emphasized in order to show C-3 District impacts in the most conservative light. For example, although BART ridership includes a non-C-3 component, the C-3 component includes all riders who enter the system at the Market Street stations. Obviously, some travellers using one of the four Market Street stations actually work south of Folsom or in Chinatown or on Van Ness Avenue. Because these travellers are included in the C-3 numbers, the non-C-3 component is underreported but the total of C-3 and non-C-3 remains accurate (see Appendix J, p. J.23). Golden Gate Transit and SamTrans illustrate this point even more strongly: survey data showed that C-3 use of these systems essentially equals total ridership, leaving no non-C-3 component. Although in reality there clearly are workers from outside C-3 who commute on these transit systems, the Downtown Plan Downtown Plan EIR analyses labeled everyone C-3 because there was no statistical basis on which to separate the totals into two components and because the focus of the Downtown Plan EIR was on C-3 District impacts.

The transportation screenlines were established at maximum load points when possible, where they would illustrate greatest C-3 District impacts. They are therefore located such that, unlike a cordon count, they do not include all travellers from the entire greater downtown in all cases (e.g., Muni SE counts were made in the mid-south of Market area as shown on Fig. IV.E.1, p. IV.E.6 in the EIR). They are also located such that in many cases travellers have left the system prior to the screenline, having reached the stop near a store, a restaurant, their home or some other destination point. Thus, absolutely all travellers cannot be included in the totals. (If a cordon-type analyses had instead been chosen, the measuring locations could have been established to include the entirety of the greater downtown on all transportation systems, but many maximum-impact measuring points would have been missed with this method. In addition, the five years worth of data necessary to establish growth rates for portions of the analysis would not have been available at some locations along the cordon boundary.)

Travel by automobile is measured as numbers of vehicles without regard to the numbers of passengers, since vehicles cause the traffic impacts on streets and freeways. Therefore, while a non-C-3 component is clearly identifiable in the freeway analyses in the EIR, a precise number of non-C-3 travellers is not identifiable.

With these facts in mind, it becomes clear that while total travel on the various transportation systems, including non-C-3 generated travel, is accurately projected by the transportation analysis model or possibly overestimated, the portion of the total that represents non-C-3 travellers cannot be identified in such a way as to permit direct comparison with any estimates of numbers of workers expected to have jobs in the non-C-3 portions of the greater downtown.

In summary, the transportation impact analysis in the Downtown Plan EIR measures the impacts of growth in total travel, incorporating both C-3 District and non-C-3 District growth parameters as appropriate. Although in some cases, the non-C-3 component cannot be separately identified, it is included in the estimates of total travel and is thus accounted for in the impact analysis. This total future travel scenario presented in the Downtown Plan EIR is also a reasonable and appropriate future scenario for the cumulative impact analysis in this EIR.

APPENDIX D: EMPLOYMENT AND HOUSING FACTORS

TABLE D-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1983, IN GROSS SQUARE FEET

Year	Total Gross Sq. Ft. Completed	5-Year Total (Net)/a/	5-Year Annual Average (Net)/a/	Cumulative Total of All Office Buildings	Cumulative Total of All Downtown Office Buildings
Pre-1960				28,145,000 /b/	24,175,000 /c/
1960	1,183,000				
1961	270,000				
1962	--				
1963	--				
1964	1,413,000				
1960-1964		1,866,000 (2,580,000)	573,200 (516,000)	30,725,000	26,754,000
1965	1,463,000				
1966	973,000				
1967	1,453,000				
1968	1,234,000				
1969	3,256,000				
1965-1969		8,379,000 (7,541,000)	1,675,800 (1,508,000)	38,266,000	34,295,000
1970	1,853,000				
1971	--				
1972	1,961,000				
1973	2,736,000				
1974	2,065,000				
1970-1974		8,615,000 (7,753,000)	1,723,000 (1,550,000)	46,019,000	42,048,000
1975	536,000				
1976	2,429,000				
1977	2,660,000				
1978	--				
1979	2,532,000				
1975-1979		8,157,000 (7,341,000)	1,631,400 (1,468,000)	53,360,000	49,389,000

(Continued)

TABLE D-1: MAJOR OFFICE BUILDING CONSTRUCTION IN SAN FRANCISCO THROUGH 1983, IN GROSS SQUARE FEET (Continued)

Year	Total Gross Sq. Ft. Completed	5-Year Total (Net)/a/	5-Year Annual Average (Net)/a/	Cumulative Total of All Office Buildings	Cumulative Total of All Downtown Office Buildings
1980	1,284,000				
1981	3,029,000				
1982	3,771,000				
1983	4,108,000				
		12,192,000/d/	3,048,000/d/		
1980-1983		(10,972,800)/d/	(2,743,200)/d/	65,552,000	60,144,000

/a/ Net equals 90% of gross. Net new space is added at an increase factor of 90%, since it is assumed that space equal to 10% of a new building is demolished to make land available for the new replacement building.
/b/ Source: San Francisco Downtown Zoning Study, Working Paper No. 1, January 1966, Appendix Table 1, Part 1. For pre-1965, data include the area bounded by Vallejo, Franklin, Central Skyway, Bryant and Embarcadero. Also includes one-third of retail-office mixed use. For post-1964, data include the entire city.
/c/ Gross Floor Space for downtown offices are included for the following functional areas: Financial, Retail, Hotel, Jackson Square, Golden Gateway, Civic Center, South of Market, and Outer Market Street as defined in the cited January 1966 report. For post-1964, the entire area east of Franklin St. is included.
/d/ Four-year total and average.

SOURCE: Department of City Planning, March 15, 1983, and July 16, 1984.

APPENDIX E

AIR QUALITY

SAN FRANCISCO AIR POLLUTANT SUMMARY 1980-1984[1]

POLLUTANT	FEDERAL STANDARD[2]	STATE STANDARD[3]	1980	1981	1982	1983	1984
Carbon Monoxide (CO)							
1-hour average (ppm)	35	20					
Highest hourly average			10	8	--	--	--
No. of exceedances			0	0	0	0	--
8-hour average (ppm)	9	9					
Highest 8-hour average			7.5	5.3	9	5.1	10.8
No. of exceedances			0	0	1	0	1
Ozone (0_3)							
1-hour average (ppm)	.12[4]	.10					
Highest hourly average			0.09	0.07	.08	.13	0.10
No. of exceedances			0	0	0	1	0
Nitrogen Dioxide (NO_2)							
1-hour average (ppm)	None	.25					
Highest hourly average			0.17	0.11	.13	.13	0.14
No. of exceedances			0	0	0	0	0
Sulphur Dioxide ($S0_2$)							
24-hour average (ppm)	.14	.05					
Highest 24-hour average			0.018	0.016	.012	.018	0.03
No. of exceedances			0	0	0	0	0
Total Suspended Particulates (TSP)							
24-hour average (ug/m^3)	260	100					
Highest 24-hour average			173	103	106	117	--
No. of exceedances			6	1	3	4	--

SAN FRANCISCO AIR POLLUTANT SUMMARY 1980-1984[1]

POLLUTANT	FEDERAL STANDARD[2]		STATE STANDARD[3]	1980	1981	1982	1983	1984
Annual Geometric Mean (ug/m^3)[5]	75	60						
Annual Geometric Mean				52.1	56.0	57.0	55.0	60.0
Annual Exceedances				No	No	No	No	1
Lead								
3-month Average (mg/m^3)	1.5	None						
Highest 3-month average				0.53	0.35	---	---	---
No. of exceedances				0	0	---	---	---
1-month Average (mg/m^3)	None	1.5	---	---	---	---		
No. of exceedances	---	---	---	---	---	---		

[1]1980-84 data collected at 900 23rd Street.

[2]Federal standard is not to be exceeded more than once per year. Annual average standards are not be exceeded.

[3]State standards are not to be equalled or exceeded. The State 1-hour average CO standard was reduced from 40 ppm to 20 ppm in 1982.

[4]The federal standard is given in terms of Expected Annual Excesses, which is based on a 3-year running average.

[5]The annual Geometric Mean is a single number that applies to an entire year of data. "No" indicates TSP concentrations did not exceed 60 (ug/m^3).

Note: ppm = parts per million
ug/mg^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter

Source: BAAMQD, Air Pollution in the Bay Area by Station and Contaminant, March issues, 1980-1985; and California Air Resources Board, California Air Quality Data, Annual Summaries, 1979-1982.

APPENDIX F

FUNDAMENTAL CONCEPTS OF ENVIRONMENTAL NOISE

This section provides background information to aid in understanding the technical aspects of this report.

Three dimensions of environmental noise are important in determining subjective response. These are:

a. the intensity or level of the sound

b. the frequency spectrum of the sound

c. the time-varying character of the sound

Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. Sound levels are usually measured and expressed in decibels (dB), with 0 dB corresponding roughly to the threshold of hearing.

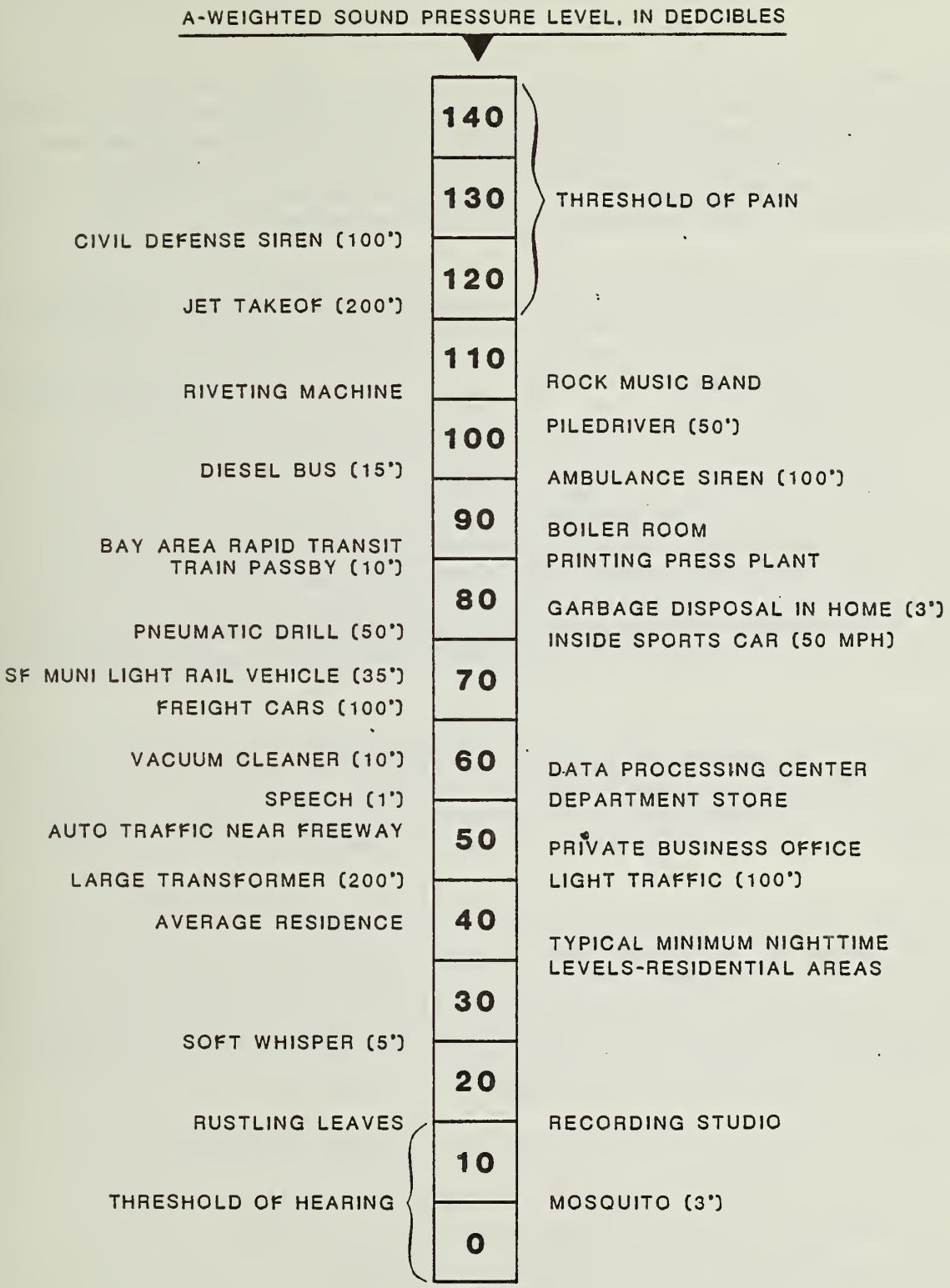
The "frequency" of a sound refers to the number of complete pressure fluctuations per second in the sound. The unit of measurement is the cycle per second (cps) or Hertz (Hz). Most of the sounds which we hear in the environment do not consist of a single frequency, but of a broad band of frequencies, differing in level. The quantitative expression of the frequency and level content of a sound is its sound spectrum. A sound spectrum for engineering purposes is typically described in terms of octave bands which separate the audible frequency range (for human beings, from about 20 to 20,000 Hz) into ten segments.

Many rating methods have been devised to permit comparisons of sounds having quite different spectra. Fortunately, the simplest method correlates with human response practically as well as the more complex methods. This method consists of evaluating all of the frequencies of a sound in accordance with a weighting that progressively and severely deemphasizes the importance of frequency components below 1000 Hz, with mild deemphasis above 5000 Hz. This type of frequency weighting reflects the fact that human hearing is less sensitive at low frequencies and extreme high frequencies than in the frequency midrange.

The weighting curve described above is called "A" weighting, and the level so measured is called the "A-weighted sound level," or simply "A-level."

The A-level in decibels is expressed "dBA"; the appended letter "A" is a reminder of the particular kind of weighting used for the measurement. In practice, the A-level of a sound source is conveniently measured using a sound level meter that includes an electrical filter corresponding to the A-weighting curve. All U.S. and international standard sound level meters include such a filter. Typical A-levels measured in the environment and in industry are shown in Figure 1.

Although the A-level may adequately describe environmental noise at any instant in time, the fact is that the community noise level varies continuously. Most environmental noise includes a conglomeration of distant noise souces which create a relatively steady background noise in which no particular source is identifiable. These distant sources may



TYPICAL SOUND LEVELS MEASURED IN THE ENVIRONMENT AND INDUSTRY

include traffic, wind in trees, industrial activities, etc. These noise sources are relatively constant from moment to moment, but vary slowly from hour to hour as natural forces change or as human activity follows its daily cycle. Superimposed on this slowly varying background is a succession of identifiable noisy events of brief duration. These may include nearby activities or single vehicle passages, aircraft flyovers, etc., which cause the environmental noise level to vary from instant to instant.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. The L10 is the A-weighted sound level equaled or exceeded during 10 percent of a stated time period. The L10 is considered a good measure of the "average peak" noise. The L50 is the A-weighted sound level that is equaled or exceeded 50 percent of a stated time period. The L50 represents the median sound level. The L90 is the A-weighted sound level equaled or exceeded during 90 percent of a stated time period. The L90 is used to describe the background noise.

As it is often cumbersome to describe the noise environment with these statistical descriptors, a single number descriptor called the Leq is also widely used. The Leq is defined as the equivalent steady-state sound level which in a stated period of time would contain the same acoustic energy as the time-varying sound level during the same time period. The Leq is particularly useful in describing the subjective change in an environment where the source of noise remains the same but there is change in the level of activity. Widening roads and/or increasing traffic are examples of this kind of situation.

In determining the daily measure of environmental noise, it is important to account for the difference in response of people to daytime and nighttime noises. During the nighttime, exterior background noises are generally lower than the daytime levels. However, most household noise also decreases at night and exterior noises become very noticeable. Further, most people are sleeping at night and are very sensitve to noise intrusion.

To account for human sensitivity to nighttime noise levels a descriptor, Ldn, (day-night equivalent sound level) was developed. The Ldn divides the 24-hour day into the daytime of 7 a.m. to 10 p.m. and the nighttime of 10 p.m. to 7 a.m. The nighttime noise level is weighted 10 dB higher than the daytime noise level. The Ldn, then, is the A-weighted average sound level in decibels during a 24-hour period with 10 dBA added to the hourly Leqs during the nighttime. For highway noise environments the Leq during the peak traffic hour is approximately equal to the Ldn.

The effects of noise on people can be listed in three general categories:

1. subjective effects of annoyance, nuisance, dissatisfaction
2. interference with activities such as speech, sleep, learning
3. physiological effects such as startle, hearing loss

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Unfortunately, there is as yet no completely satisfactory measure of the subject effects of noise, or of the corresponding reactions of annoyance and dissatisfaction. This is primarily because of the wide variation in individual thresholds of annoyance, and habituation to noise over differing individual past experiences with noise.

Thus, an important parameter in determining a person's subjective reaction to a new noise is the existing noise environment to which one has adapted: the so-called "ambient" noise. "Ambient" is defined as "the all-encompassing noise associated with a given environment, being a composite of sounds from many sources, near and far." In general, the more a new noise exceeds the previously existing ambient, the less acceptable the new noise will be judged by the hearers.

With regard to increases in noise level, knowledge of the following relationships will be helpful in understanding the quantitative sections of this report:

1. Except in carefully controlled laboratory experiments, a change of only 1 dBA cannot be perceived.

2. Outside of the laboratory, a 3-dBA change is considered a just-noticeable difference.

3. A change in level of at least 5 dBA is required before any noticeable change in community response would be expected.

4. A 10-dBA change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

Source : Charles M. Salter Associates, Inc., December 1982.

APPENDIX G
RESIDENCE PATTERNS AND HOUSING

This appendix describes the methodologies for estimating residence patterns for the project and for cumulative development in downtown San Francisco. There is one method for estimating residence patterns for the project; there are two methods for estimating residence patterns associated with cumulative development.

Estimating Residence Patterns for the Project

For the purposes of cumulative impact analysis, the residence patterns for the project are estimated for the year 2000. The assumption is that although the project is not located within the boundaries of the C-3 district, the project would have characteristics similar to the average characteristics for similar buildings in the C-3 District in 2000.

The first step is to estimate employment in the project. The year 2000 employment densities developed in the Downtown Plan EIR analysis for management/technical office space (267 gsf per employee) and retail space (350 gsf per employee) are applied to the net additional space in the project in each of these use categories.[1] (In some projects the net additional retail space may be a negative number.)

In the second step, the number of these workers who would live in San Francisco and other areas of the region are estimated using the year 2000 distribution of C-3 District management/technical office workers and retail workers by place of residence. The residential distribution for office workers in the project would be: San Francisco - 44%, East Bay - 35%, Peninsula - 11%, and North Bay - 10%. For retail workers, the distribution would be: San Francisco - 75%, East Bay - 12%, Peninsula - 10%, North Bay - 3%.[2] The total estimate of workers in the project who would live in each area of the region is the sum of the office and retail estimates in each area.

Estimating Residence Patterns for Cumulative Development

The C-3 District forecasts presented in this EIR are the results of the methodology and procedures used in the Downtown Plan EIR analysis to forecast changes over time in the residential distribution of C-3 District workers. No new calculations were undertaken for the purposes of this EIR.

The residence patterns for all C-3 District employees in 2000 were forecast for the Downtown Plan EIR. (This approach used information and data from the Downtown Plan EIR forecasts, including 1981 and 1982 employer/employee surveys in the C-3 district and South of Market areas; 1960, 1970 and 1980 Census data, ABAG housing forecasts and other relevant data sources.) These forecasts are summarized in the EIR section on Employment Residence Patterns and Housing (see Table 18). The methodologies for forecasting C-3 District employment and residence patterns are described in Appendices H and I of the Downtown Plan EIR.[3] Table I.10 on page I.38 of the Downtown Plan EIR shows the residence patterns percentages applied to employment in each land use (or business activity). The resultant distribution for all workers by place of residence is as follows: San Francisco - 50%, East Bay - 29%, Peninsula - 13%, and North Bay - 8%.

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[1] Downtown Plan EIR, page IV.C.45 and note 30 on page IV.C.61; also see Table IV.C.2 on page IV.C.6.

[2] Ibid., page I.38.

[3] For a description of the employment forecast methodology, see the Downtown Plan EIR, Appendix H, pages H.6-H.16. For a description of the residence patterns forecast methodology, see the Downtown Plan EIR, Appendix I, pages I.8-I.30.